

*State Route 99*  
*Safety and Operational Improvement Project*



***FINAL ENVIRONMENTAL IMPACT  
REPORT/ENVIRONMENTAL ASSESSMENT AND SECTION  
4(f) EVALUATION***

*State Route 99 in Sutter County, California  
03-SUT-99-13.9-23.0/27.0-37.0  
(PM 8.7-14.3/16.8-23.0)  
03-1C3200*



*November 2003*



## **General Information About This Document**

### ***What's in this document?***

This document is a Final Environmental Impact Report/Environmental Assessment, which examines the environmental impacts of the proposed project located in Sutter County, California.

This document complies with both the California Environmental Quality Act (CEQA) and the National Environmental Policy Act (NEPA), which require the preparation of an Environmental Impact Report (EIR) and an Environmental Assessment (EA) when it has been determined that a project involving State and/or Federal funds may have substantial impacts on the environment. While CEQA requires that each effect having a “significant impact” be identified in an EIR, NEPA does not. In this document references to “significant impact” are made to fulfill this requirement under CEQA, pursuant to California law. No representation as to significance made in this document represents an assessment as to the magnitude of such an impact under the requirements of Federal law. Under NEPA, no such determination need be made for a specific environmental effect.

The Draft Environmental Impact Report/Environmental Assessment (DEIR/EA) was circulated to the public for (45) days, from June 24, 2002 to August 7, 2002. A public workshop was held on July 31, 2002. Comments received on the DEIR/EA, comments from the public workshop, and Caltrans' responses are contained in Appendix B. Changes to the DEIR/EA text in response to comments received are contained in this FEIR/EA, as indicated by a vertical line in the margin.

### ***What happens after this***

Following review and approval of this FEIR/EA, Caltrans and FHWA may (1) give environmental approval to the proposed project, (2) undertake additional environmental studies, or (3) abandon the project. If the project is given environmental approval and funding is appropriated, Caltrans could design and construct all or part of the project.

For individuals with sensory disabilities, this document is available in Braille, large print, on audiocassette, or computer disk. To obtain a copy in one of these alternate formats, please call or write to Caltrans, Attn: *Jeff Loudon, Caltrans Environmental Management M1 Branch, P.O. Box 911, Marysville, CA 95901; (530) 741-4598* Voice, or use the California Relay Service TTY number, 1-800-735-2929.

**State Route 99 Safety & Operational Improvement Project**  
*From KP 13.9 north of the SR 70/99 split to KP 37.0 south of Yuba City, in Sutter County, California*

**FINAL ENVIRONMENTAL IMPACT  
REPORT/ENVIRONMENTAL ASSESSMENT**

Submitted Pursuant to: (State) Division 13, Public Resources Code  
(Federal) 42 USC 4332(2)(C) and 49 USC 303

U.S. DEPARTMENT OF TRANSPORTATION  
Federal Highway Administration, and  
THE STATE OF CALIFORNIA  
Department of Transportation

Responsible Agencies:  
California Department of Fish and Game

10/31/03  
Date of Approval

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11/4/2003  
Date of Approval

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Abstract

The proposed action would upgrade SR 99 to a 4-lane facility with continuous median and left-turn lane from the SR70/99 junction to Sacramento Avenue (KP 23.0/PM 14.3), and upgrade to conventional highway or expressway standards between Central Avenue (KP 27.0/PM 16.8) to just north of O'Banion Road (KP 37.0/PM 23.0). In addition, the project provides for a new two-lane bridge on the East side of and adjacent to existing Feather River Bridge. The purpose of the proposed project is to improve safety and provide concept Level of Service (LOS) D for the year 2015. The estimated cost is \$79 to \$89 million. Three build alternatives and the no build were considered in the draft document. Alternative 3, the south Tudor bypass has been identified as the preferred alternative. The proposed project could affect Waters of the U.S., Central Valley Chinook salmon and steelhead, Swainson's Hawk, and Giant Garter Snake. Additionally the project could also affect agricultural lands, floodplains, and water quality. Avoidance, minimization and mitigation measures have been proposed to reduce the project impacts. Sutter and Yuba counties are preparing a habitat conservation Plan to address impacts from this and other projects in those counties.



## Summary

The Final Environmental Impact Report/Environmental Assessment (FEIR/EA) has been prepared to meet requirements of the California Environmental Quality Act (CEQA) and the National Environmental Policy Act (NEPA) for projects that could have adverse impacts on the environment. It is based on detailed technical studies for the purpose of informing the public and to present reasonable alternatives that would avoid or minimize impacts.

The following summary identifies major items of importance to decision-makers regarding the proposed project. Detailed project information is presented in the body of the document.

### Proposed Action

The California Department of Transportation (Caltrans) and the Federal Highway Administration (FHWA) are proposing a highway improvement project on State Route 99 (SR 99) in Sutter County, between the SR99/70 Junction (wyé) to Sacramento Avenue, and from Central Avenue to O'Banion Road. The proposed project would widen SR 99 to a 4-lane facility with continuous median and left-turn lane from the SR70/99 junction to Sacramento Avenue (KP 23.0/PM 14.3), and upgrade to conventional highway or expressway standards between Central Avenue (KP 27.0/PM 16.8) and O'Banion Road (KP 37.0/PM 23.0). In addition, the project provides for a new two-lane bridge on the east side of and adjacent to existing Feather River Bridge #18-26. The project will improve traffic safety and reduce congestion. Improvements would include:

- Realign the east leg of O'Banion Road to match the west leg alignment.
- Add a west leg to the Nicolaus Road connection to SR 99 at KP 19.0 (PM 11.8) to eliminate left-turn movements and improve safety.
- Install signals at the intersections of SR 113 and Garden Highway with SR 99 as part of Phase I of segment 4.

The section between Central Avenue (KP 27.0/PM 16.8) and O'Banion Road (KP 37.0/PM 23.0) would be constructed in two phases. Phase I will realign and/or widen SR 99 from a two lane to four lane facility with at-grade intersections at Garden

Highway and Route 113. Phase II would add interchanges at the intersections of SR 99 with Route 113 and at Garden Highway.

The project has been divided into three segments to facilitate design and construction programming.

Segment 1 was programmed for funding in the 1998 State Transportation Improvement Program (STIP) from Interregional Improvement Program (ITIP), Regional Transportation Improvement Program (RTIP), TEA-21 Demonstration funds. Funding for Design, Right of Way acquisition and Right of Way engineering for Segment 4 was programmed in the 2000 STIP (from ITIP and RTIP) and TEA-21 Demonstration funds. In addition, funding for Segment 4's construction capital and construction support was programmed in the 2002 STIP (ITIP and RTIP) funds. Funding for Design, Right of Way acquisition and engineering for Segment 2 are programmed in the 2002 STIP (RTIP) funds.

Segment 3 (Figure S-1), which was constructed in September 2000 is located between Sacramento Avenue (KP 22.0, PM 13.7) and Wilkie Avenue (KP 29.2, PM 18.2). This segment was funded by the 1996 State Transportation Improvement Program (STIP) from Interregional Improvement Program (ITIP) and Regional Transportation Improvement Program (RTIP) funds. Segment 3 provides an additional lane in each direction and a continuous, two-way left-turn lane.

## **Project Alternatives**

Three build alternatives are being considered to address the need for improvements along SR 99 in Sutter County. These alternatives are a result of a number of Project Study Reports (PSR) which studied various alternatives and variations outlined in the previous section. The alternatives were selected based on several factors including benefits, capital cost, feasibility, environmental impacts and ability to address the stated project purpose and need.

Alternative 1: Widen existing facility.

Alternative 2: Widen existing facility with a northern bypass of the town of Tudor.

Alternative 3: Widen existing facility with a southern bypass of the town of Tudor.

- Segment 1 begins near SR 99/70 junction KP 13.9 (PM 8.7) to Nicolaus Road KP 19.0 (PM 11.8).

- Segment 2 begins south of Nicolaus Road KP 17.7 (PM 11.0) and extends to north of Sacramento Avenue KP 23.0 (PM 14.3).
- Segment 4 starts near Central Avenue KP 27.0 (PM 16.8) and ends just north of O'Banion Road KP 37.0 (PM 23.0).

All build alternatives would include Segment 3 (Figure S-1), which was constructed in September 2000 and other project features such as the new two-lane bridge over the Feather River would be the same for all the build alternatives (Figure S-1).

A No Build Alternative was also considered to allow the reader of this document to compare the effects of the build alternatives with a future scenario where no expressway or interchanges are present along SR 99. Chapter Two gives a detailed discussion of project alternatives. Figure 1-2 a-c shows the project location.

### Identification of Preferred Alternative

The Project Development Team (PDT) after reviewing the project history, project scope, design details, and environmental impacts made the formal recommendation of selecting Alternative 3 as the preferred alternative for State Route 99 Safety and Operational Improvement Project.

### Summary of Impacts by Alternative

The following table shows the potential impacts and avoidance, minimization and mitigation for the proposed project. Details on each item in the table are presented in Chapters 3-4.

**Table S-1 - Summary of Major Potential Impacts From Alternatives**

Potential Impact	Alternative 1	Alternative 2	Alternative 3	No Build Alternative	Minimization/Mitigation
Farmland converted Hectares (acres)	68 (167)	76 (188)	<b>77 (190)</b>	0	None Required
Housing displacements	9	8	<b>3</b>	0	Relocation Assistance
Consistency with Sutter County General Plan	Yes	Yes	<b>Yes</b>	No	None Required
Potential Impact	Alternative 1	Alternative 2	Alternative 3	No Build Alternative	Minimization/Mitigation

## Summary

Noise	# of receptors ≥Leq 67 dBA	35	29	15	37	Not Feasible & Reasonable
Water Quality		Temp. Construction Impacts	Temp. Construction Impacts	<b>Temp. Construction Impacts</b>	No Impact	Construction measures
Floodplain Encroachment		Transverse @ Feather River	Transverse @ Feather River	<b>Transverse @ Feather River</b>	No Impact	None Required
Air quality		Temp. Construction Impacts	Temp. Construction Impacts	<b>Temp. Construction Impacts</b>	No Impact	Construction measures
Total wetlands area ha (ac)	Permanent	.22 (.56)	.22 (.56)	<b>.039(.097)</b>	No Impact	Creation/ acquisition of habitat
	Temporary	.14 (.342)	.14 (.342)	<b>.208 (0.514)</b>		
Total Water of the U.S. area ha (ac)		1.4 (3.6)	1.4 (3.6)	<b>.80 (.277)</b>	No Impact	Creation/ acquisition of habitat
Salmonids/Salmonid Habitat ha (ac)		Potential Take 2.4 (6.0)	Potential Take 2.4 (6.0)	<b>Potential Take .011 (.277)</b>	No Impact	Construction measures, revegetation
Swainson's Hawk ha (ac)		49 (120)	62 (152)	<b>18 (45)</b>	No Impact	Preservation/ acquisition of habitat; Construction Measures
Giant Garter Snake (GGS) Habitat ha (ac)		18 (44)	22 (54)	<b>32 (77)</b>	No Impact	Preservation/ acquisition of habitat; Construction Measures
Cultural resources		No Adverse Effect	No Effect	<b>No Effect</b>	No Impact	Avoidance
Visual quality		Feather River/ Overcrossing (phase II)	Feather River/ Interchange (phase II)	<b>Feather River</b>	No Impact	Revegetation/ landscaping
Cumulative impacts		GGS Anadromous Fish	GGS, Farmlands Anadromous Fish	<b>GGS Farmlands Anadromous Fish</b>	No Impact	HCP, Cumulative Mitigation
Growth inducement		Not Substantial	Not Substantial	<b>Not Substantial</b>	No Impact	None Required
Number of potential hazardous waste sites		5	4	<b>11</b>	No Impact	To Be Determined
Potential 4(f) property (s)		1	1	<b>1</b>	No Impact	Minimization/ compensation
Volume of fill imported as % of total cut & fill volume		35	55	<b>47</b>	0	N/A
Maximum projected cut and fill heights		Cut-2 m Fill – 8.8 m	Cut – 2 m Fill – 8.8 m	<b>Cut-2 m Fill – 8.8 m</b>	0	N/A

**Figure S-1 – Cumulative Impact Effect Area**

## **Feather River Wildlife Area**

The proposed project would utilize 12.0 ha (30 ac) of the Feather River Wildlife Area (which is located between the levees along the Feather River). Twelve hectares (30 ac) would be used for construction staging (temporary) and only .8 ha (2.0 ac) would be permanently impacted. This utilization of the wildlife area for transportation projects would constitute a Section 4(f) use. A Programmatic Section 4(f) evaluation is contained in Appendix D.

## **Summary of Impacts, Minimization Measures and Proposed Mitigation**

The following abatement, avoidance, minimization and/or mitigation measures are based on impacts associated with Alternative 3 which has been identified as the preferred alternative.

### **Business/Housing Displacements**

Property owners would receive fair market value compensation for any land or improvements acquired by the State. Caltrans and FHWA would provide relocation assistance in accordance with the Uniform Relocation Assistance and Real Property Acquisition Policies act of 1970, as amended (Appendix H).

### **Noise**

The project would result in noise impacts to 15 residences that would meet or exceed the Noise Abatement Criteria (NAC) level at which abatement must be considered. Noise barriers, such as earthen berms and soundwalls were considered. Earthen berms were ruled inappropriate due to the limited right-of-way available. Sound walls are only considered an effective avoidance measure if they also meet the “feasibility” and “reasonableness” criteria as outlined in 23 CFR 772.11 and in the Caltrans Traffic Noise Analysis Protocol. These criteria were applied and were not met; therefore, no mitigation is proposed. In addition, noise levels for the No Build Alternative are predicted to be within 1 dBA of the build alternative and in many locations the No Build Alternative would have a greater noise impact. Therefore, based upon the noise analysis completed, the project would not result in a substantial noise impacts.

## Water Quality

The practices outlined in the Storm Water Management Plan (SWMP) and Statewide Storm Water Practice Guidelines would ensure that certain minimum design elements are incorporated into the project to maintain or improve water quality. The key elements are as follows:

- Minimize Impervious Surfaces – The project would reduce total runoff volume by reducing impervious area where possible.
- Prevent Downstream Erosion – Drainage facilities would be designed to avoid causing or contributing to downstream erosion. Drainage outfalls, when appropriate, would discharge to suitable control measures.
- Stabilize Disturbed Soils Areas - Project design would incorporate stabilization of disturbed areas (when appropriate) with seeding, vegetative or other types of cover.
- Maximize Existing Vegetative Surfaces - Project design would limit the footprint of cuts and fills to minimize removal of existing vegetation.

The project as planned would not create a substantial increase in downstream erosion or siltation.

The Construction General Permit (Order No. 99-08-DWQ)(CA000002) would require that all storm water discharges associated with construction activities that result in soil disturbance of at least one acres of total land area would comply with the provisions specified in the permit, including development and implementation of an effective Storm Water Pollution Prevention Plan (SWPPP). The SWPPP is a document that addresses water pollution controls for the project during construction and would be prepared by the contractor and approved by the Caltrans Construction Resident Engineer prior to commencement of soil-disturbing activities.

## Air Quality

The project is located in the Sacramento Valley Air Basin and comes under the jurisdiction of the Feather River Air Quality Management District.

The SR 99 Safety and Operational Improvement Project would not violate the National Ambient Air Quality Standards or the California Ambient Air Quality Standards.

The Caltrans Standard Specifications are expected to effectively reduce and control emission impacts during construction. The provisions of Section 7-1.01F, Air Pollution Control, require the contractor to comply with the local jurisdiction's rules, regulations, ordinances, and statutes.

### **Wetlands and Waters of the U.S.**

Wetlands are defined as "areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support a prevalence of vegetation typically adapted for life in saturated soil conditions." The "other waters of the U.S." includes seasonal or perennial waters (creeks, lakes or ponds) and other types of habitats that lack one or more of three technical criteria for wetlands (soil, hydrology, and/or vegetation).

### ***Impacts from Fill and Diversion***

Temporary impacts to wetlands include the temporary fill of wetlands during construction which would be removed immediately following construction, the temporary disturbance to vegetation and the temporary dewatering which may be required. Temporary impacts may occur during construction for the following reasons: 1) to provide access to other construction areas, 2) to provide equipment access for work on culverts and/or, 3) to dewater to maintain water quality standards during construction.

### ***Temporary Impacts to "Other Waters"***

Temporary impacts to waters consist of dewatering during construction. Areas would be dewatered primarily to maintain water quality. Areas that are dewatered would be returned to the pre-construction state and the water returned to the pre-existing channel.

### ***Permanent Impacts to Wetlands***

Permanent impacts to wetlands occur where areas defined as wetlands are filled. Within the Sutter 99 widening project fill includes the extension of culverts into wetland areas and the placement of bridge footings in areas delineated as wetlands.

### ***Permanent Impacts to “Other Waters”***

There will be no permanent impacts to “Other Waters.” A permanent impact to “Other Waters” would consist of a complete impairment to the waterbody. No portion of this project will completely impair or impede the flow of a water body.

### **Hazardous Waste**

The project would potentially disturb areas, which may contain hydrocarbon and groundwater contamination. Caltrans would perform a more detailed site investigation (Phase II Study) including drilling of test holes and collection and laboratory analysis of collected soil and/or water samples, to confirm or dismiss potential hazardous waste issues.

Prior to commencing with the Phase II study, a Health and Safety Plan shall be prepared which addresses the potential effect of the various chemical compounds that could be encountered at each property with potentially hazardous substance issues.

Upon confirmation of hazardous waste issues, responsible parties will be sought for cleanup activities. If Caltrans must clean up impacted properties, reimbursement of cleanup costs will be sought from the responsible party(ies).

For impacted soils encountered on potential acquisition properties, possible cleanup technologies include excavation and disposal of the impacted soils at appropriately permitted landfills, extraction of contaminated vapors, and aeration or bioremediation of soil in situ or above ground. All soil remediation shall be performed within the existing policies, rules and regulations of governing regulatory agencies.

A certified contractor would handle debris removal and disposal of structures found to contain asbestos and/or lead-based paint.

## Visual Impacts

Slopes along the interchanges would be constructed at a 1:4 slope to blend with the surrounding landscape. In addition, these measures would be implemented:

- Existing oaks located in roadside areas will be protected from construction operations and retained where possible. Metal beam guardrails would be used to protect and retain trees which may be located within the new clear recovery zone. If removal of existing oaks is necessary, all trees with a trunk diameter of 6" DBH (Diameter Breast Height) or greater will require mitigation/replacement.
- All disturbed areas associated with construction activities shall be seeded with appropriate perennial native grass species as part of the permanent erosion control BMP requirement.
- Selected locations throughout the length of the project shall be planted with native oaks from acorns or container plants.
- All efforts should be made to minimize negative impacts to native vegetation when constructing the bridge structure in Segment 2. All disturbed areas resulting from bridge construction within the levee boundaries shall be seeded and revegetated to lessen the visual and biological impacts. Erosion control measures shall be utilized in areas that have been cleared and grubbed. Revegetation of disturbed areas in floodplain shall be identified as a follow-up planting project.
- Slopes shall be seeded and revegetated with native plants following construction.
- Newly constructed slopes and loop ramp areas associated with the interchange construction shall be revegetated with containerized and acorn oak plantings. All disturbed areas shall incorporate native grass species into erosion control seeding.
- Any mature vegetation that is removed for construction would be replaced or relocated in consultation with the landowner.
- Impacts to root systems of large oak trees at the intersection of O'Banion Road and SR99 (Station 130+70 on design plans) would be avoided. Roadway improvements will minimize construction-related activities within drip zones of trees. Staging and storage areas will be prohibited within drip zones.

## Cumulative Impacts

Although regional growth would be concentrated in established community centers and transportation upgrades on existing State facilities, there still would be cumulative losses to sensitive biological resources and farmland. The SR 99 Safety and Operational Improvement project would contribute to these losses of riparian habitat, wetlands, and habitat which supports federally and state listed species (Giant Garter snake and Swainson's Hawk). These losses are not substantial with implementation of proposed project mitigation, and considering the extensive resources available in the cumulative effects area. Despite the likelihood of cumulative effects to these resources in the region, the cumulative individual mitigation and conservation measures identified in planning documents and required on Caltrans/FHWA transportation projects by resources agencies, as well as the forthcoming Butte, Sutter and Yuba County HCP would contribute to offset these effects.

Proposed minimization and mitigation measures would reduce direct and indirect project impacts to less than significant levels. Mitigation would also minimize cumulative impacts to Swainson's Hawk, Giant Garter Snake, Chinook Salmon, and Central Valley Steelhead.

## Summary of Endangered Species Consultation and Mitigation

Caltrans and FHWA have completed formal Section 7 consultation with the United States Fish and Wildlife Service (USFWS) and National Marine Fisheries Service (NOAA-Fisheries) in accordance with the Federal Endangered Species Act (ESA) of 1973, as amended, for the proposed SR 99 Safety and Operational Improvement Project in Sutter County. In compliance with the California Endangered Species Act (CESA), Caltrans has consulted with the California Department of Fish and Game (CDFG).

### United States Fish and Wildlife Service

The USFWS was contacted on January 30, 2003 by FHWA for the purpose of initiating formal consultation. The USFWS issued a Biological Opinion (B.O.), contained in Appendix C, addressing the adverse effects of the proposed action on the threatened giant garter snake (*Thamnophis gigas*) and the threatened Sacramento

splittail (*Pogonichthys macrolepidotus*). Implementation of the proposed project would not adversely affect the threatened bald eagle (*Haliaeetus leucocephalus*). The project will not affect critical habitat for listed species. Appendix E contains a USFWS list of endangered and threatened species that may be present in the project area or may be affected by the proposed project.

The USFWS B.O. states that the proposed project may adversely affect giant garter snakes. The FHWA and Caltrans have proposed avoidance, minimization, and conservation measures sufficient to minimize the adverse effects of the proposed action to these species, and the B. O. concludes that the proposed action is not likely to jeopardize their continued existence.

Proposed avoidance, minimization and conservation measures include the following:

**General measures:**

- Establishment of Environmentally Sensitive Areas (ESA) areas that will be avoided during construction.
- Implementation of Best Management Practices (BMP) during construction which focus on maintaining water quality, properly winterizing construction areas, preventing erosion and keeping hazardous materials away from water.
- The contractor will need to comply with the water pollution protection provisions of Section 7-1.01G of the Caltrans Standard Specifications.
- Continued surveys of the proposed segments to determine if there have been any habitat changes that may affect the determinations made in the BO. Surveys will focus on bird species and habitat changes.
- In appropriate areas (to be determined by the project Landscape Architect and District Biologist), the top 10 centimeter (4 inches) of topsoil will be stockpiled to aid in the post-construction revegetation. Mulches used in landscaping will be from a source material that is free of exotic species.

***Giant garter snake:***

1. Both upland and aquatic habitat including rice fields and habitat lost at irrigation canals and sloughs will be compensated for at a ratio to be determined but based

- on the current USFWS policy of 1:1 conservation ratios for temporary effects and 3:1 for permanent effects.
2. Construction activities in giant garter snake habitat will be limited to May 1 through October 1.
  3. The biologist/environmental monitor will conduct a survey for giant garter snake within 24 hours of the start of construction in identified habitat. No giant garter snake can be handled without obtaining prior approval from the USFWS. If a snake becomes trapped during construction a USFWS pre-approved biologist will remove the snake to a downstream location. The USFWS will be notified of the presence of the snake within 24 hours.
  4. The project shall be re-inspected whenever a lapse in construction activity of 2 weeks or greater has occurred.
  5. Any dewatered habitat must remain dry for at least 15 days after April 15 and prior to excavating and filling.
  6. All construction personnel shall participate in a USFWS-approved worker environmental program to learn about the species, its habitat and the relevant laws.
  7. Movement of heavy equipment to and from the project site shall be restricted to established roadways or areas surveyed by the guidelines above and after May 1.
  8. Following construction, areas of temporary disturbance shall be returned to their pre-project conditions. Revegetation will be with native species as noted in the conservation measures.

***Sacramento Splittail:***

A list of endangered and threatened wildlife and plants was obtained from the USFWS and NOAA Fisheries for the Natural Environment Study Report; and, later an updated species list for the Biological Assessment. These lists identified Sacramento Splittail (*Pogonichthys macrolepidotus*) as threatened and potentially present in the project area. On September 22, 2003 Sacramento Splittail (*Pogonichthys macrolepidotus*) was removed from the list of endangered and threatened species (i.e. delisted). The environmental document identifies avoidance, minimization and mitigation measures specific for this species. Due to the delisting,

these measures are no longer required; specifically, timing constraints and compensatory mitigation. It is expected that measures implemented for other listed fish species will also benefit Sacramento Splittail (*Pogonichthys macrolepidotus*).

### **National Oceanic and Atmospheric Administration (NOAA Fisheries) Consultation**

Consultation with NOAA Fisheries was undertaken to address the effects of the proposed action on threatened Central Valley steelhead, Central Valley spring-run Chinook salmon and effects on Essential Fish Habitat (EFH) for Central Valley fall-run Chinook salmon (*Onchyrhynchus tshawytscha*). In accordance with section 7 of the Endangered Species Act (ESA) of 1973, as amended (16 U.S.C. 1531 *et seq*) NOAA prepared a biological opinion which includes required mitigation measures, conservation recommendations, and an incidental take statement for the implementation of the proposed project (see Appendix C). Under provisions of the Magnuson-Stevens Fishery Conservation and Management Act (MSFCMA), Section 305(B)(4)(A), NOAA Fisheries has provided a delineation identifying EFH and specifying conservation recommendations, statutory requirements and an effects statement. As required by Section 305(B)(4)(B) of the MSFCMA, and 50 CFR 600.920(j), FHWA will comply with the conservation recommendations. With the conservation measures in place, the conclusion of NOAA Fisheries consultation is that the proposed project may adversely affect EFH for fall-run Chinook salmon and take of Central Valley spring-run Chinook salmon and Central Valley steelhead may occur. The identified affects are not expected to lead to jeopardy of Chinook salmon (or identified EFH) or Central Valley steelhead. Mitigation for loss of 0.89 ha (2.20 ac) of riparian habitat would include revegetation at bridge crossings and adjacent creek banks at a ratio of 3:1 to ensure “no net loss” of habitat.

The following measures will be included to minimize the effects of the project:

1. Work shall be conducted during a July 1-October 15 construction window.
2. A fish salvage plan shall be prepared by the contractor and submitted by Caltrans to NOAA Fisheries prior to bridge construction (see BO for details).
3. Pile driving shall be conducted only during daylight hours to avoid crepuscular and nocturnal migration periods of Chinook salmon and steelhead.

4. Underwater sound levels associated with pile driving shall be monitored to ensure sound levels do not exceed 150 dB at a distance of 10 meters from the pile (see BO for details).
5. All BMPs regarding water quality shall be employed during construction including the following:
  - Stream channel disturbance shall be kept to a minimum and no fill material beyond that identified shall be allowed in the channel.
  - Water pumped from within the confines of the cofferdams which may be turbid, shall not directly re-enter the system. Water in contact with concrete must be disposed of outside the stream zone, riparian zone or any wetland area.
  - All equipment refueling and maintenance will occur outside the channel and riparian area (except for drill rig or other stationary equipment).
6. The final bridge design will be approved by NOAA Fisheries. The bridge design shall not allow stormwater from any road or bridge to be directly discharged to any drainage during construction and in perpetuity.
7. A revegetation plan shall be approved by NOAA Fisheries.
8. Loss of riparian vegetation shall be replaced onsite or near the site at a ratio of 3:1.

### **Habitat Conservation Plan**

The proposed action is interrelated with local urban planning efforts, and while intended primarily as a safety improvement, the USFWS has determined that the improvements associated with the proposed action will encourage and facilitate planned and/or yet-to-be planned growth. This growth, while associated with the project, is not subject to FHWA or Caltrans control; it is the responsibility of local planners.

The approach agreed to by Caltrans during the consultation on the SR 70 project in Yuba and Sutter Counties, and finalized in that project's June 15, 2001 Biological Opinion and its March 18, 2002, Amendment (USFWS files 1-1-00-F-0224 and 1-1-02-F-0069 respectively), is for the local jurisdictions to address the effects of growth

on listed species through a regional planning effort and to pursue incidental take permits directly from the USFWS in accordance with Section 10(a)(1)(B) of the Endangered Species Act. Although, local jurisdictions are ultimately responsible for the creation and implementation of the Habitat Conservation Plan, Caltrans has agreed to support and facilitate this endeavor with Sutter and Yuba Counties and the Sacramento Area Council of Governments (SACOG). The HCP, which is in development, will outline adequate conservation measures for potential Federal and State listed species in the area. For additional information on the HCP and Caltrans commitments, please refer to the USFWS Biological Opinion in Appendix C.

### **CDFG Consultation**

Consultation with CDFG is ongoing but the following are standard measures would be included as measures to minimize and fully mitigate impacts:

#### ***Swainson's hawk***

- Removal of known or potential nest trees shall be done outside of the breeding season; work to be done between October 1 and February 1.
- Caltrans will compensate for the loss of Swainson's hawk foraging habitat.
- The project area and vicinity will continue to be surveyed prior to construction to determine presence/absence of active nests within a 16 kilometers (10-mile) radius of the project area.

#### ***Giant Garter Snake***

See USFWS conservation measures for this species in the previous section.

### **Issues to be Resolved**

Issues to be resolved before implementation of the proposed project are listed below.

- Final project design
- Right of way acquisition and utility relocation
- Permits and approvals

## Permits and Approvals

The following permits and/or approvals would be required before implementation of the proposed project:

- Streambed Alteration Agreement (Section 1601) from the CDFG
- Section 401 certification/waiver from the Regional Water Quality Control Board (RWQCB)
- Section 404 of the Clean Water Act Permit from the U.S. Army Corp of Engineers (ACOE)

California Endangered Species Act – Section 2081 Permit for Incidental Take from the California Department of Fish and Game (CDFG)

### Notice of Determination

Upon certification of the Final EIR by Caltrans and approval of the Final EA by FHWA, Caltrans would file a Notice of Determination (NOD) and FHWA would prepare a Finding of No Significant Impact (FONSI). Caltrans would prepare Findings and a Statement of Overriding Consideration for impacts considered significant under CEQA.



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## List of Abbreviated Terms

Abbreviation	Term
ac	acre
AC	asphalt concrete
ACOE	US Army Corps of Engineers
ADT	Average Daily Traffic
APE	Area of Potential Effects (Cultural Resources)
BCAG	Butte County Association of Governments
BCM	Butte County Meadowfoam (special status plant)
BMP	Best Management Practices (Water Quality)
Caltrans	California Department of Transportation
CDFG	California Department of Fish & Game
CEQA	California Environmental Quality Act
CFR	Code of Federal Regulations
CO	Carbon Monoxide (Air Quality)
dBA	Decibels (noise level measurement)
DEIR	Draft Environmental Impact Report (CEQA document – State)
DEIS	Draft Environmental Impact Statement (NEPA document – Federal)
EA	Environmental Assessment
EPA	Environmental Protection Agency
ESA	Environmentally Sensitive Area
ESA	Endangered Species Act (federal)
ESU	Evolutionarily Significant Unit
FEMA	Federal Emergency Management Agency
FHWA	Federal Highway Administration
FPPA	Farmland Protection Policy Act
ft	foot / feet
FTIP	Federal Transportation Improvement Program
ha	hectare
HPSR	Historic Property Survey Report (cultural resources)
IS	Initial Study
Km	kilometer
KP	Kilopost
L <sub>eq</sub>	Equivalent Noise level
LOS	Level of Service
m	meter
mi	mile
MTP	Metropolitan Transportation Program
MOU	Memorandum of Understanding
NAC	Noise Abatement Criteria
NEPA	National Environmental Policy Act
NES	Natural Environment Study (Biological Resources)

NFIP	National Flood Insurance Program
NHPA	National Historic Preservation Act
NOAA Fisheries	National Oceanographic Atmospheric Administration
NOP	Notice of Preparation
NRCS	Natural Resources Conservation Service
PG&E	Pacific Gas and Electric
PM	Postmile
ppm	Parts per million
PRC	Public Resources Code (State)
RTIP	Regional Transportation Improvement Program
RTP	Regional Transportation Plan
RWQCB	Regional Water Quality Control Board
SACOG	Sacramento Area Council of Governments
SHPO	State Historic Preservation Office
SIP	State Implementation Plan
SR	State Route
STIP	State Transportation Improvement Plan
TASAS	Traffic Accident and Surveillance Analysis System
TMP	Traffic Management Plan
TDM	Travel Demand Management
TSM	Transportation System Management
USC	United States Code
USEPA	US Environmental Protection Agency
USFWS	US Fish & Wildlife Service
UST	Underground storage tank (hazardous materials)



# Chapter 1 Purpose and Need

## 1.1 Introduction

This project proposes to widen State Route 99 (SR 99) in Sutter County, from 2 to 4 lanes with a variable median (3.6 – 6.6 m) (11.8 – 25.6 ft.), from the SR99/70 Junction to Sacramento Avenue, and from Central Avenue to O'Banion Road. For design and construction phasing the project has been divided in 3 segments (Figure 1-1, 2 a-c).

## 1.2 Need for Proposed Action

### Existing Facility

Currently, State Route (SR) 99 within the project limits is a two-lane conventional highway with numerous private driveways. State Route 99 is considered an inter-regional route in terms of its vital role in the movement of agricultural and commercial goods within California and the Central Valley. It serves interregional and local commuter traffic. Within the project limits, SR 99 lane widths are 3.66 meters (12.0 ft) with 2.44-meter (8.0 ft) shoulders. The terrain is flat with 90-degree curves at the Garden Highway and Route 113 intersections. The curve radius at Garden Highway is 260 meters (853 ft), which does not meet current design standards. Left and right-turn channelization is provided at both intersections. Right of way width varies from 15.2m to 52.0m (49.9 – 170.6 ft). Current traffic operating characteristics are rated at a Level of Service (LOS) D (Table 1-1 and 1-2).

**Table 1-1 - Traffic Level of Service (LOS)**

LOS	Description
A	Primarily free-flow operations. Vehicles are unimpeded in their ability to maneuver in the traffic stream.
B	Reasonably free-flow, free-flow speeds generally maintained. Lowest average spacing between vehicles is 330 ft.
C	Speeds at or near free-flow. Freedom to maneuver within traffic stream is noticeably restricted and lane changes require more vigilance.
D	Speeds begin to decline slightly and density begins to increase with increasing flows. Freedom to maneuver is more noticeably limited, and traffic stream has little space to absorb disruptions.
E	Operation at capacity. Operations at this level are volatile, as there are virtually no usable gaps in the traffic stream. Maneuvering within traffic stream is extremely limited.
F	Breakdown in vehicular flow. Such conditions generally exist within queues forming behind breakdown points. Number of vehicles arriving at a point is greater than the number of vehicles that can move through it.

*Source: Highway Capacity Manual, Transportation Research Board, 1994.*

## Figure 1-1 – State Route 99 Improvements

**Figure 1-2a – Project Location Map Segment 1**

**Figure 1-2b – Project Location Map Segment 2**

**Figure 1-2c – Project Location Map Segment 4**

### Capacity Issues

Based on the traffic volumes from 1998, the SR99 corridor from south of Yuba City to the 70/99 junction in Sutter County operated at a Level of Service (LOS) D.

Traffic operations would deteriorate to LOS F (congestion), if no improvements are made by the year 2025. The following table presents projected traffic demand with or without the project:

**Table 1-2 - Projected Traffic Demand**

Traffic Volumes Table									
Location and Segment	1998			2015			2025		
	ADT	Peak Hour	LOS	ADT	Peak Hour	LOS *	ADT	Peak Hour	LOS *
<b>Segment 1**</b> KP 13.9/19.0 (PM 8.7/11.8)	10,700	1,100	D	19,500	1,950	E/B	22,100	2,210	F/B
<b>Segment 2**</b> KP 18.8/23.0 (PM 11.7/14.3)	10,700	1,100	D	20,200	2,020	E/B	22,500	2,250	F/B
<b>Segment 3**</b> KP 20.8/31.7 (PM 12.9/17.2) Built in 2000	10,700	1,100	D	20,200	2,020	E/B	22,500	2,250	F/B
<b>Segment 4**</b> KP 27.0/37.0 (PM 16.8/23.0)	13,900	1,300	D	20,800	2,080	E/B	24,500	2,450	F/B

\*F/B: Level of Service without/with the proposed project.

\*\*The SR99 corridor between SR70/99 to Yuba City was originally separated into 7 segments for construction and programming purposes.

The traffic mix on this section of SR99 includes 10% trucks and a significant number of agricultural vehicles. This vehicle mix, together with the above mentioned near capacity operating conditions, makes it difficult for faster vehicles to find adequate passing opportunities. As a result, higher than average fatal accident rates were prevalent in this section of SR99 until 1997.

### Safety Issues

Table 1-4 indicates existing collision data for segments 1 and 2 from July 1, 1998 to June 20, 2001, shows that the Actual Collision Rate is less than the statewide Average

Collision Rate for similar highway facilities. During the same time period, the Actual Collision Rate for Segment 4 was above the statewide average.

Segment 3 (KP 20.8/31.7 (PM 12.9/17.2)), which was improved in 2000, had a fatal rate well above the statewide average. The average before improvements was .138, while the statewide average was .029. This is shown in Table 1-3.

**Table 1-3 – Segment 3 Accident Rates**

Location	Number of Collisions (per million vehicle miles)			Statewide Average		
	Fatal	F+I***	Total	Fatal	F+I	Total
Segment 3*	0.139	0.52	0.96	0.029	0.50	1.0
Segment 3**	0.018	0.21	0.47	0.029	0.43	0.91

\*Segment 3 accident rates before improvements. (11/01/1994-10/31/1997)

\*\*Segment 3 accident rates after improvements. (07/01/1998-06/30/2001)

\*\*\*Fatal + Injury

Due to the fact that traffic is increasing and the road will operate near capacity during afternoon peaks in the near future, the addition of one lane in each direction and a continuous left-turn lane is warranted to accommodate existing and future volumes of traffic and improve safety.

**Table 1-4 - Accident Rates**

Traffic Accident Data*										
Location	Number of Collisions				Collision Rate(per million vehicle miles)					
					Actual			Average		
	Tot	Fatal	Inj.	F+I**	Fatal	F + I	Tot	Fatal	F+I**	Tot
Segment 1 KP 13.9/19.0 (PM 8.7/11.8)	9	0	6	6	.000	.15	.23	.035	.42	.86
Segment 2 KP18.8/23.0 (PM 11.7/14.3)	15	0	5	5	.000	.15	.44	.035	.45	.93
Segment 3** KP 20.8/31.7 (PM 12.9/17.2) Built-in 2000	27	1	11	12	.018	.21	.47	.029	.43	.91
Segment 4 KP 27.0/37.0 (PM 16.8/23.0)	49	2	18	20	.026	.26	.63	.037	.49	1.02

\*From TASAS Table B.

\*\*Fatal + Injury

## **Segment 1 & 2**

The current Average Daily Traffic (ADT) along this section of SR 99 is 10,700 resulting in a Level of Service (LOS) of D (high density, stable flow). By the year 2015, traffic is estimated to increase to an ADT of 19,500 for Segment 1, and 20,200 for Segment 2. This traffic increase will result in a LOS E for these two segments if no improvements are made. However, after the widening operations of these two segments is expected to improve to LOS B.

## **Segment 4**

This segment of SR 99 currently operates at LOS D. Without improvements the LOS will deteriorate to LOS E (congestion) by 2015. The Sutter County General Plan has established the concept Level Of Service for this corridor as LOS D.

Table 1-4 summarizes the collision data from TASAS "Table B" within the project limits for the three-year period from July 1, 1998 to June 30, 2001. The majority of accidents were concentrated at the three major intersections within the project limits (Garden Highway, State Route 113, and O'Banion Road) and in Tudor where multiple business driveways exist. The accidents were primarily broadside or rear end collisions. Addition of a continuous, two-way left-turn lane and traffic signals or interchanges at Garden Highway and SR 113 should help to decrease the frequency of accidents in these areas.

## **System Linkage**

This project is consistent with the future planning for SR 99, which is discussed in the Caltrans Transportation Concept Report and District System Management Plan. The Sacramento Area Council of Governments (SACOG) has fully supported this project (by Resolution No. 36-1997) for inclusion in the State Transportation Improvement Program known as STIP.

State Route 99 is part of the Interregional Road System identified for investment of State Transportation Funds, which is vital to the agricultural and commercial economy of the Central Valley. The route also serves as a mail access between several small cities and urban services available in Sacramento Metropolitan area.

## **Relationship With Other Modes of Transportation**

The following public transit options are available along SR 99 within the project area:

- Public transit is provided by Yuba-Sutter Transit, with seven southbound buses from Yuba City/Marysville to Sacramento and nine northbound buses from Sacramento each workday.
- Class III Bicycle facility (road shoulders) on existing SR 99.

The proposed project would enhance these modes of public transit by providing an improved facility with less congestion and fewer accidents.

### **1.3 Purpose of the Proposed Project**

The objectives of the proposed project are to:

- Improve traffic safety.
- Increase capability to accommodate the existing and future volumes of traffic at a level of service LOS D or better.

### **1.4 Project Background**

In June 1995, Sutter County participated with the Sacramento Area Council of Governments (SACOG) in a regional survey of transportation needs for the Yuba-Sutter area. The survey included asking the public to rate ten different transportation projects ranging from expanding public transportation, providing a new Feather River crossing or widening either SR 70 or 99. Of the county residents who responded, 72% of the respondents rated passing lanes on SR 99 as their preferred transportation improvement.

In response to this survey, a Project Study Report (PSR) for passing lanes on SR 99 between the Feather River Bridge (KP 20.6, PM 12.8) and Garden Highway (KP 31.7, PM 19.7) was prepared. The PSR was approved in March 1996. One section of SR 99, between Sacramento Avenue (KP 22.0, PM 13.7) and Wilkie Avenue (KP 29.2, PM 18.2) (Segment 3) was approved for funding in the 1996 STIP. The project provided an additional lane in each direction and a continuous, two-way left-turn lane. Construction was completed in September 2000.

A PSR for Segment 1 was previously approved on February 18, 1998. The PSR included two other segments from KP 18.81/PM 22.5 and KP 27.09/PM 31.46. It also included an expressway alternative, which was rejected based on the 70/99 Corridor Study completed in 1990 to address regional transportation needs, and due to lack of funding. There has been no right of way acquired for this project.

Between 1996 and 1998 several fatal accidents occurred along SR 99 from the Route 70/99 Junction to Garden Highway. This focused public attention on the entire two-lane portion of SR 99 from the SR 70/99 Junction to Lincoln Road near Yuba City. Caltrans and the California Highway Patrol (CHP) instituted various measures to reduce accidents. Among the improvements were the addition of raised pavement markers along the center and edge lines, installation of informational and warning signs, reduction of the maximum speed limit from 65 mph to 60 mph, and the increased presence of the CHP. Since implementation of these improvements, the accident rate within the project limits has dropped to near the statewide average for this type of facility.

In 1998, in conjunction with Sutter County and Yuba City, Caltrans reevaluated the planning strategy for SR 99 in the Tudor area. Due to the potential realignment of SR 99 in the Tudor area, it was decided to proceed with development of the segment of SR 99 from just north of O'Banion Road (KP 36.4, PM 22.6)(previously segment 6) to Lincoln Road. The Project Report for this segment (EA 03-1A462) was approved in August 2000 and proposes to widen SR 99 along the existing alignment to four lanes with a continuous, two-way left-turn lane. This operational improvement is expected to begin construction in the summer of 2003.

## **1.5 Project Description**

The project proposes to upgrade SR 99 to a 4-lane facility with continuous median and left-turn lane from the SR70/99 (KP 13.9/PM 8.7) junction to Sacramento Ave (KP 23.0/PM 14.3 (Segments 1 & 2)), and upgrade to conventional highway or expressway standards between Central Avenue (KP 27.0/PM 16.8) and O'Banion Road (KP 36.5/PM 22.7 (Segment 4)). In addition, the project provides for a new two-lane bridge on the east side of and adjacent to existing Feather River Bridge #18-26 (Figure 1-2b). Additional work will include:

- Realign the east leg of O'Banion Road to match the west leg alignment.
- Add a west leg to the Nicolaus Road connection to SR 99 at KP 19.0 (PM 11.8) to eliminate left-turn movements and improve safety.
- Construct the new Feather River Bridge east of SR 99 to match the widening to the east of segments 1 and 2.
- Install signals at the intersections of SR 113 and Garden Highway with SR 99 as part of Phase I of this project. Signal warrants will be met by the scheduled construction time for Phase I.

The segment between Central Avenue (KP 27.0/PM 16.8) and O'Banion Road (KP 37.0/PM 23.0) would be constructed in two phases. Phase I will realign and/or widen SR 99 from a two lane to four lane facility with at-grade intersections at Garden Highway and SR 113. Phase II will add interchanges at the intersections of SR 99 with SR 113 and at Garden Highway.



# **Chapter 2      Alternatives**

---

## **2.1 Alternative Development Process**

As a response to a 1995 Sacramento Area Council of Governments (SACOG) regional survey, various Project Study Reports (PSR) were prepared and approved to address perceived needs and improvements. In addition, between 1996 and 1998 several fatal accidents occurred along SR 99 from the SR 70/99 junction to the Garden Highway intersection. This focused public attention on the entire two-lane segment of SR 99 from SR 70/99 wye to Lincoln Road south of Yuba City. To address the public concerns, several PSRs were prepared for passing lanes between Feather River Bridge and Garden Highway (March 1996), improvements and widening with a new bridge over the Feather River between the 70/99 wye and Ashford Avenue (February 1998), and widening SR 99 from Central Avenue to 0.2 kilometers (.12 miles) north of O'Banion Road (October 2000).

For the proposed project, three alternatives, which have evolved from the various PSRs covering this area, are discussed. One alternative widens the existing facility while the other two alternatives propose new alignments.

### **2.1.1 Alternatives Considered and Eliminated**

A number of alternative variations have been considered in past PSRs, which cover the project. The following alternatives were evaluated and eliminated from consideration based on impacts to resources, feasibility, ability to meet traffic concerns, operational and safety issues, and cost.

#### **Median Width Variations & Staggered Passing Lane**

Previous PSRs looked at alternatives with no medians, staggered passing lanes, and 4.2 meter (17.8 feet) medians. After in-depth review, the Project Development Team (PDT) deemed a four-lane alternative without a continuous median/left-turn lane would compromise operation and safety. Such alternatives raised concerns that vehicles would be making unprotected left turns from the fast lane of the passing section on a high volume highway. Additionally, the unprotected turning movements would increase in difficulty due to the larger numbers of vehicles in opposing traffic lanes. In addition, increasing the median width to 4.2 m (17.8 ft) would compromise

conforming to the existing segment 3 3.6 m (11.8 ft) median, which was built in 2000.

### **Widening the Existing Facility to the West**

A Preliminary Environmental Assessment Report (PEAR) for segments 1 and 2 indicated that there was an increased risk of impacting a larger number of structures and having a higher impact to the environment if widening was conducted on the west side of the existing facility. In addition, to conform to Segment 3 (improved in 2000), it was deemed appropriate to widen east of the existing facility.

### **Widening of the Feather River Bridge**

In the project study report titled “Improvements On SR 99 In Sutter County Between KP 14.04 and 31.46 PSR”, dated February, 1998, two alternatives were proposed for the Feather River Crossing. Alternative 1 was to widen the existing bridge to accommodate five 3.6m (11.8 ft) lanes and two 2.4 m (7.9 ft) shoulders. The second alternative was to build a new two-lane bridge.

Alternative one was rejected due to the age of the existing structure and potential structural problems with adding three additional lanes.

Furthermore, it was decided to build a new two-lane bridge on the east side of the existing Feather River bridge to conform with Segment 3 (built in 2000). In addition, building the new bridge on the east would facilitate construction staging and traffic control.

### **Expressway Alternative**

An expressway alternative for the entire corridor was rejected based on the 1990 “State Routes 70 and 99 Corridor Study” which selected SR 70 as the freeway corridor, and due to funding concerns.

## **2.1.2 Alternatives Selected for Detailed Study**

Three build alternatives are being considered to address the need for improvements along SR 99 in Sutter County. These alternatives are a result of a number of Project Study Reports (PSR) which evaluated various alternatives and variations outlined in the previous section. The alternatives were selected based on several factors

including benefits, capital cost, feasibility, environmental impacts and ability to address the stated project's purpose and need.

The No Build Alternative is presented to allow the reader of this document to compare the effects of the build alternatives with a future scenario where no improvements are made to this portion of SR 99.

## **2.2 Project Alternatives**

Project alternatives involve widening existing SR 99 to four lanes, bypassing the town of Tudor to the north or bypassing Tudor to the south. The alternatives have been divided into three segments to facilitate design and construction programming. Segments 1 and 2 are common in all three alternatives. Alternatives are shown in Figure 2-1, and typical roadway cross-sections are in Figure 2-2a-c and 2-3.

### **2.2.1 Common Features in Build Alternatives**

#### **Segment 1 & 2**

This project proposes to widen Segments 1 and 2 from 2 lanes to 4 lanes with a continuous median/left-turn lane. All widening will occur east of the existing SR 99 throughout the project limits (Figure 2-2a). The highway will maintain conventional highway standards with full 2.4 m (7.9 ft) shoulders and a minimum 6.0 m (19.7 ft) clear recovery zone. This project proposes a continuous 3.6 m (11.8 ft) wide median/left-turn lane. Horizontal and vertical alignments will follow the existing alignment (Figure 2-2b). The proposed right of way will be 52.0 m (170.6 ft) wide except at the intersections of Striplin Road and Powerline Road where the proposed R/W limits vary from 48.5 m (159.1 ft) to 58.0 m (190.2 ft).

#### **Feather River Bridge**

Segment 2 includes a new 928 m (3044.6 ft) long bridge east of the existing Feather River Bridge (Bridge Number 18-26) Figure (2-3). Once the new bridge is completed, the existing bridge structure will be used for southbound traffic and the new bridge structure will be use for the northbound traffic.

## **Segment 4**

This segment would be improved in two phases. Phase I will realign and/or widen SR 99 from 2 lanes to 4 lanes along the existing alignment with at-grade intersections at Garden Highway and SR 113. Phase II will add interchanges at the intersections of SR 99 with SR 113 and at Garden Highway (Figures 2-2b, 2-2c).

Following are the additional project features for Segment 4:

- Two 3.6 m (11.8 ft) travel lanes in each direction.
- A 3.6 m (11.8 ft) continuous median/two-way left-turn lane along the existing alignment and 6.6m (21.6 ft) paved median on the realignment section.
- Design speed of 110 km/hr (68 mph).
- Traffic signals and lighting (Phase I) and interchanges with lighting (Phase II) at the SR 99 intersections with Garden Highway and SR 113.

### **2.2.2 Alternative 1**

This alternative proposes to widen SR 99 along the existing alignment from 2-lanes to 4-lanes with a continuous left-turn lane (see Figure 2-1). Curve radii at the Garden Highway and SR 113 intersections would be increased to provide a 110-km/h (68 mph) design speed. Phase I would install traffic signals at the SR 99/Garden Highway and SR 99/113 intersections. Phase II would replace the at-grade intersections with interchanges.

Estimated cost of this alternative, including right of way and construction, with signalized at-grade intersections (Phase I) is estimated to be \$76 million million (Table 2-1). The total new right of way required would be 70.4 ha (174 ac).

### **2.2.3 Alternative 2**

Alternative 2 proposes to realign SR 99 north of Tudor (see Figure 2-1). State Route 113 would be extended and Garden Highway would be improved to meet at a single at-grade intersection (Phase I) with SR 99. The portion of SR 99 south of Garden Highway would be widened along the existing alignment. Phase II would provide an interchange at the SR 99/113/Garden Highway intersection.

Because most of the residences within the project limits are south of Garden Highway, this alternative will impact more property owners along SR 99 than the

other alternatives by moving the highway closer to their residences or businesses. Realigned portions of SR 99, Garden Highway and SR 113 would also impact several parcels north of Garden Highway as the new alignment bisects these parcels.

Estimated cost of this alternative, including right of way and construction, with signalized, at-grade intersections (Phase I) is estimated to be \$79.9 million (Table 2-1). The new right way need for this alternative would be 85.8 ha (212 ac), including right of way for the planned interchange (Phase II).

### **2.2.4 Alternative 3**

Alternative 3 proposes to realign SR 99 south of Tudor (see Figure 2-1). The segment of SR 99 north of SR 113 would be widened along the existing alignment. Phase I will provide signalized intersections at the SR 99/113 and at the SR 99/Garden Highway intersections. Phase II would provide an interchange at the SR 99/113 intersection and a ramp overcrossing at the SR 99/Garden Highway intersection for drivers heading southbound on Garden Highway to southbound SR 99.

This alternative will impact the least number of residences or businesses. However, several agricultural parcels would be bisected by the new alignment. The estimated cost of this alternative, including right of way and construction, with signalized, at-grade intersections (Phase I) is estimated to be \$84.6 million (Table 2-1). New right of way for this alternative would be 110.1 ha (272 ac).

Subsequent to circulation of the draft EIR/EA, Alternative 3 was changed to comply with National Pollution Discharge Elimination System (NPDES) regulations and new statewide design standards. These changes entail a flatter slope (4:1) and additional drainage ditches. In addition to these refinements, Caltrans has proposes to construct a frontage road north of existing SR 99 near Wilson Road to provide access to adjacent property owners, design a larger radius for the flyover ramp near Wilson Road to make the design speed compatible with proposed improvements, improve the intersection at SR99/Garden Highway, and build north and southbound acceleration lanes at O'Banion Road for truck traffic.

**Table 2-1 – Right of Way Cost Per Alternative**

Alternatives	New Right of Way ha (ac)	Right of Way & Construction Cost (millions)
		Phase I
Alternative 1	70.4 ha (174 ac)	\$76.0
Alternative 2	85.8 ha (212 ac)	\$79.9
Alternative 3	110.1 ha (272 ac)	\$84.6

### **2.2.5 No Build Alternative**

Under the No Build Alternative, road geometrics along the SR99 corridor would remain as they currently exist. The No Build Alternative would not cause environmental impacts and no mitigation would be required. However, traffic projections indicate SR 99 would not accommodate traffic demand at the accepted route LOS D in the year 2015, as shown in Table 1-2. The No Build Alternative would result in continued deterioration of the level of service and would not improve safety.

Section 1.2 presented the LOS, capacity, safety, and highway system issues that warrant consideration of the proposed project. The No Build Alternative would not address these needs, and would not meet the objectives of the project.

### **2.2.6 Identification of Preferred Alternative**

A Project Development Team (PDT) meeting was held to make a formal recommendation regarding the Preferred Alternative. The team was comprised of both internal and external stakeholders. During the meeting, the PDT reviewed:

- The Route Concept for State Route 99 between Yuba City and the 99/70 “wye”.
- Detail design review of Segments 1, 2, and 4.
- Environmental impacts relating to Alternatives 1,2, and 3.
- Public comments received during the circulation of the Draft Environmental Document (DED).

Alternative 3 was selected as the preferred alternative. While it involves essentially the same level of environmental impacts as Alternatives 1 and 2, it does provide the added benefits of higher level of safety, shorter travel time, and lower estimated cost.

## Figure 2-1 – All Alternatives

### Figure 2-2a – Typical Cross Section

## Figure 2-2b – Typical Cross Section

**Figure 2-2c – Typical Cross Section**

**Figure 2-3 – Feather River Bridge Cross Section**





# Chapter 3 Affected Environment, Environmental Consequences, and Mitigation

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This chapter describes the current state of the resources in the project area and identifies the likely impacts of implementing the proposed project. In general, each subsection below will describe the present conditions, discuss the likely impacts of building the proposed project, and indicate what measures would be taken to mitigate those impacts.

## 3.1 CEQA and NEPA

Information in this chapter is presented to clarify the requirements of the California Environmental Quality Act (CEQA) and the National Environmental Policy Act (NEPA). The proposed project could have an adverse impact on the environment, and must satisfy requirements of both laws, since both Caltrans and FHWA must make project decisions. A combined FEIR/EA has been prepared in accordance with CEQA and NEPA.

CEQA requires a determination of significant impact to be stated in the environmental document (EIR), and this information is presented throughout this chapter. Under Section 15382 of the CEQA Guidelines, “significant effect” is defined as “...a substantial, or potentially substantial adverse change in any of the physical conditions within the area affected by the project including land, air, water, mineral, flora, fauna, ambient noise, and objects of historic and aesthetic significance. An economic or social change by itself shall not be considered a significant effect on the environment. A social or economic change related to a physical change may be considered in determining whether the physical change is significant.”

NEPA does not require a determination of significant effects in the environmental document. Under NEPA, the term significant is used to describe Section 4(f) resources (Department of Transportation Act), Section 106 properties (National Historic Preservation Act), and floodplain impacts (Executive Order 11988).

## 3.2 Hydrology, Water Quality, Storm Run-Off

The Federal Clean Water Act (CWA) of 1972 addresses issues regarding water pollution control and water quality protection. The objective of the CWA is to restore and maintain the chemical, physical, and biological integrity of the Nation’s waters

for their beneficial uses. The 1987 amendments of the CWA added section 402 (P), which states that storm water discharges are point source discharges under the National Pollution Discharge Elimination System (NPDES) program. In 1990, the U.S. EPA promulgated final regulations that establish the storm water permit requirements. The responsibility for administering the CWA lies with the U.S. Environmental Protection Agency (US EPA).

### **3.2.1 Affected Environment**

The project study area is a linear corridor, which follows the existing SR 99 through the central and southeastern sections of Sutter County within the Sacramento Valley. The Sacramento Valley was historically a large riparian floodplain, which for the last two centuries has been altered to accommodate agriculture. The area now contains rice fields, grain fields, orchards, and other row crops. The majority of the highway drainage is confined by the row crops and their drainage ditches.

Additionally, the project is located in the Central Valley Region (Region V) of the California Regional Water Quality Control Board (RWQCB). It occurs within the Central Valley Basin Plan which lists many beneficial uses for streams and springs in the vicinity of the project including municipal, agricultural, industrial, recreation, warm and cold freshwater habitat, migration, spawning and wildlife habitat and navigation. The Porter-Cologne Water Quality Control Act of 1969 requires that each RWQCB within the state formulate and adopt water quality control plans and basin plans for all areas in the region. The Clean Water Act as amended in 1972 imposes similar requirements.

The project areas lies in a Mediterranean subtropical climate zone; its cool wet winters and hot, dry summers are typical of areas in California Central Valley. Annual precipitation is approximately 53 centimeters (21 inches) with the majority of rainfall occurring between November and April. The elevation of project areas ranges from approximately 7.6 m - 13.7 m (25-45 ft) above sea level. Surface drainage in the project area is generally conveyed to agricultural drainage ditches that follow property lines and is eventually drained into the Feather River system.

There are a number of major waterways that lie within the project area including Buckham Slough, Coon Creek, and Ping Slough. The second, middle segment of the project includes the Feather River and Nelson Slough, which are contained within large flood control levees. The Northern segment (segment 4) of the project area is limited to manmade canals used for irrigation and the conveyance of storm water.

## **Aquatic Environment**

The aquatic environment contains jurisdictional Waters of the U.S. and wetlands that are described in detail within the Wetlands and Waters of the U.S. section of this environmental document.

Wetlands and riparian environments are known to provide improvements to water quality through the removal of sediments and nutrients. Wetlands also attenuate floodwaters and provide groundwater recharge. For these reasons, it is important to protect these areas from disturbance and mitigate any disturbances that may occur. Impacts to sensitive aquatic environments are described in the Wetlands Section and Waters of the US section.

### **3.2.2 Impacts**

Impact criteria define the level of direct and indirect impacts on water quality, hydrology, and storm water runoff. The purpose of the establishing impact criteria is to determine when an impact is adverse under NEPA and substantial under CEQA.

The following general criteria were used to evaluate the impacts of the proposed project on water quality, hydrology, and storm water runoff:

- Create or contribute runoff water that would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?
- Violate any waste discharge requirements or water quality standards?

Any impacts to the wetland and water resources would likely come from a degradation of water quality. There could be temporary and permanent impacts as a result of poor water quality protection during and following construction. In turn, degradation to wetland and water resources could substantially affect sensitive biological resources, primarily the aquatic species but also birds that feed in the wetland areas.

#### **3.2.2.1 Impact Discussion**

##### **Feather River**

The Feather River is a water body of special concern because it is included on the EPA-303-D list for impaired water bodies. The impairment to its beneficial uses is caused by elevated levels of Diazinon, Group A Pesticides, mercury, and unknown

toxicity. Caltrans highway runoff is not a likely contributor to pesticide impacts because pesticides are not used for roadside maintenance. However, since there could possibly be low levels of mercury contained in the sediments from historic mining operations within the project area, excessive amounts of sediment disturbance in the project area could lead to a short-term increase in mercury levels.

### **Short-term Impacts During Construction**

The length of the construction period will not vary greatly between the three alternatives. Alternative selection will not change the impacts to Segments 1 or 2 where most of the biological resources occur.

### **Sediments, Turbidity, and Floating Material**

Suspended material in storm water runoff is considered a pollutant of primary importance by Caltrans on all projects. Erosion is the primary source of suspended material. Project construction activities would result in soil and ground disturbances. These disturbances would create loose and/or unprotected soil that if not properly managed and contained on the project site could be carried by surface runoff, or wind, to watercourses. Such increases in sediment and turbidity could adversely affect receiving water quality. These impacts have the potential to occur for the duration of construction activities.

The following construction activities would be part of any of the build alternatives, and may contribute to increases in sediment, turbidity, and floating materials to receiving waters.

Daily contractor activity - Routine construction activities such as material delivery, storage and usage, waste management, vehicle/equipment cleaning and operation, and use of a construction staging area could result in generation of dust, sediments, and debris.

Vegetation removal/trimming - Removal or trimming of vegetation would be required for both construction and access. This activity would eliminate the groundcover that protects the topsoil. Exposed topsoil would be more susceptible to erosion. Additionally, trimmings could fall or be carried by runoff into surface waters, resulting in introduction of floating material and the potential for increased organic loading to the creeks.

Grading - Grading would include removal of the natural and/or stabilizing cover (topsoil) and the creation of engineered slopes using fill material. Prior to

establishment of temporary or permanent erosion control measures, graded material would be highly susceptible to erosion.

Temporary roads - Construction of temporary roads would require grading, vegetation removal, and other changes to the topography and drainage characteristics of the watershed. These temporary roads are typically composed of native material and/or aggregate base rock.

Activities within the creek corridor - Construction of culverts, bridges and viaducts require an extensive presence in stream corridors. These activities may also require construction of temporary access roads, temporary cofferdams, and/or jetties to re-route the watercourses.

Dewatering - Construction may require localized dewatering in areas of shallow groundwater. Dewatering activities would be continuous but temporary for the duration of work in a particular area. Discharged groundwater may be high in turbidity.

Construction of temporary structures - To support construction equipment, laborers, and construction forms, it would be necessary to erect falsework. Falsework is typically constructed of wood and metal connectors. Although the majority of woodcutting would take place outside of the stream corridors, some woodcutting would be necessary as the falsework is erected. This woodcutting could introduce sawdust to surface waters. Disassembly of the falsework may result in small pieces of wood, nails, and metal cuttings entering creeks.

Seeding and application of fertilizers and nutrients - To prepare the ground for temporary and/or permanent cover and promote better growth, fertilizers and plant nutrients may be applied before and after planting. In the early stages of the seeding process, surface runoff could wash some of the re-vegetation material, fertilizers, nutrients, and seeds into surface waters.

### **Oil, Greases, and Chemical Contamination**

Construction activities may introduce chemicals, oils, and greases that could be carried by surface runoff to surface water if not properly managed. These impacts have the potential to occur for the duration of construction activities. The following are some common construction activities that may cause impairment:

- Cement and grout - As part of the bridge construction process, concrete and grout work would take place within stream corridors. Spillage of concrete and grout

into receiving waters during bridge construction could increase turbidity and alter the pH.

- Application and storage of chemicals - Accidental spills, improper storage, and improper application of chemicals during construction could potentially impact water quality. Chemicals such as herbicides and fertilizers could also be washed into the creeks. Herbicides could be poisonous to fish and aquatic plants. Conversely, fertilizers may promote algae growth, which would reduce dissolved oxygen levels.
- Application and storage of oils, greases, and fuels - Improper storage of oils and fuels could result in accidental spills and/or leaks within the construction area. Accidental spills during refueling and maintenance of construction vehicles and equipment could occur. Surface runoff could transport these materials to the local creeks. Similarly, application of petroleum chemicals during road construction could be washed into surface waters. These materials could have toxic effects on aquatic organisms.

### **Increases in Temperature**

Certain construction activities may contribute to short-term temperature changes in the receiving waters. Temperature changes would be considered substantial if these increases were to cause or contribute to an impairment of wetland or water resources in regards to aquatic species use. The following activities may cause short-term temperature changes:

- Concrete curing - Piers are typically constructed using reinforced concrete. Once concrete is poured in the forms, it takes up to several weeks to set - also referred to as the curing period. During the curing period, concrete releases heat into its surrounding environment. Water is often used during this process. To the extent that this water were to reach surface waters, it could cause a localized increase in the ambient temperature.
- Vegetation removal/trimming - During construction, vegetation at or near the creeks would require trimming or removal. Vegetation provides shade, which maintains cooler water temperature in the creeks. Once vegetation is removed or trimmed, water temperatures may increase due to exposure to direct sun light.

- Creek realignment - Where segments of creeks are realigned, they may not have the same canopy cover/shade as before the project. Prior to vegetation reestablishment, increases in temperature may occur.

### **Long-term Impacts During Operation**

#### **Sediments, Turbidity, and Floating Material**

Sediment is of specific concern in the project area since it has the potential to be a source of impairment.

- Hydrologic impacts - The increase in impervious areas could cause an increase in the peak flow and higher runoff volumes that could lead to stream downcutting, stream bank erosion, and loss of stream structure. The result could be an increase in sediment and turbidity in receiving waters.
- Concentration of runoff - Typical highway drainage design involves collecting runoff in pipes or ditches, and discharging, either directly or indirectly, into receiving waters. Collected runoff should be discharged into perennial creeks.

To the extent that localized flows were concentrated and/or altered from pre-project conditions, potential impacts would be similar to those described for increases in impervious areas.

#### **Oils, Greases, and Chemical Contamination**

Highway runoff and other long-term maintenance activities may introduce chemicals, oils, and greases to surface water. Typical highway related activity and maintenance that affect runoff quality are.

- Highway runoff - Contaminants generated by traffic, pavement materials, and airborne particles that settle and are carried by runoff into receiving waters.
- Accidental spills - Spills caused by highway-related traffic accidents have the ability to cause great damage to water quality, depending on the type and quantity of the material spilled.
- Application of chemicals - Application of chemicals from landscaping operations and maintenance activities could potentially enter into receiving waters. Herbicides could be poisonous to fish and other aquatic animals and to aquatic

plants. Conversely, fertilizers may promote algae growth, which would reduce dissolved oxygen levels.

Highway runoff quality is influenced by several factors, including land use, rainfall, antecedent conditions, soil type, and atmospheric deposition. Numerous monitoring studies have been performed to characterize the quality of storm water runoff from the California highway system. These studies have involved the collection of runoff samples and analysis of the samples for a wide range of water quality parameters and pollutants.

Along SR 99, storm water and agricultural runoff is anticipated to contain most of the conventional pollutants, minerals, metals, and bacteria that have been found at other Caltrans sites. Few, if any, of the hydrocarbons (except oil and grease), volatile and semi-volatile organic compounds, or pesticides/herbicides are anticipated to be found, given the rural setting of the site.

### **Build Alternatives**

#### **Level of Impact:**

- Potentially adverse.
- This impact is considered potentially significant under CEQA.

### **No Build Alternatives**

#### **Level of Impact:**

- No Impacts.

## **3.2.3 Mitigation**

### **3.2.3.1 Short Term and Long Term Impacts Mitigation Measures**

Impacts that are going to occur during construction and corresponding mitigation will be addressed in the Storm Water Pollution Prevention Plan prepared by the contractor as required by (Standard Special Provision) SSP 07-345 and the Caltrans Permit No. 99-06-DWQ. The following mitigation measures will ultimately address the long-term effects.

### **Sediments, Turbidity, and Floating Material**

Revegetation efforts may take time to provide adequate coverage, and mulches and other stabilizers may break down or be degraded by wind or runoff processes. These factors could create unprotected soil that could be carried by surface runoff or wind to watercourses, if not properly managed. The resulting increases in sediment and turbidity could adversely affect water quality. These impacts have the potential to occur for the duration of the project operation and will be minimized through the implementation of construction Best Management Practices (BMP) to the Best Available Technology/Best Conventional Technology (BAT/BCT).

### **Oils, Greases, and Chemical Contamination**

The specifications and statewide permit conditions prohibit the contractor from discharging oils, greases, or chemicals into receiving waters. For example, on this project, equipment operating in water bodies would be required to be steam cleaned prior to arrival on site, and be maintained in a clean condition during the length of activities. With implementation of the construction BMPs and SSPs, all of the build alternatives would have less than adverse effect from construction induced oils, greases, and chemicals.

### **Mercury**

Mercury is known to occur within the Feather River System due to historical gold mining operations. There is potential to increase the short-term mercury levels in the immediate project area if excessive amounts of sediments are disturbed. For these reasons, it is imperative to keep the in-channel disturbances to a minimum so that the mercury levels are kept in check.

### **Increased Temperature**

Caltrans does not have any standard BMPs or other provisions that directly address temperature impacts. However, concrete curing would occur over a period of several weeks, and be so localized in nature that impacts would be less than substantial for all alternatives.

Regarding vegetation removal/trimming and creek realignments, Caltrans would follow standard practices for minimizing the amounts of vegetation required to be trimmed or removed at crossings. To some extent, the project would tend to be self-mitigating with respect to impacts, since shade provided by the new crossings would tend to offset some loss in canopy cover through trimming/removal and realignment. Typically, the time between removal of vegetation and completion of the bridge (or at

a minimum falsework that would provide shade) would be less than a single construction season. Measurable temperature impacts would not be expected where work is done in limited areas.

The Caltrans NPDES permit requires that Caltrans consider the installation of permanent water quality treatment systems for any major construction project. Best Management Practices (BMPs) for sediment control and treatment were considered in accordance with Caltrans State Wide Storm Water Management Plan (SWMP). The additional lanes and associated impervious surface qualifies as a major construction project. Additional runoff from highways has the potential to increase contaminants in the surrounding water bodies. Mitigating with vegetated strips, which will allow additional areas for infiltration and filtration of highway runoff, is recommended. The project limits contain many areas that currently act as bio-swales, which help improve storm water runoff through infiltration, sedimentation, and natural biological actions. Those areas that naturally treat storm water should be avoided to the maximum extent practicable. New bio-swales and strips are recommended to help treat the additional runoff. These measures should provide treatment through infiltration, filtration, sedimentation, and biological processes, thereby mitigating the water quality impacts to a less than adverse level.

### **Build Alternatives**

#### **Level of Impact After Mitigation:**

- Less than adverse.
- This impact is considered less than significant under CEQA.

## **3.3 Hazardous Waste**

### **3.3.1 Affected Environment**

The project site and vicinity are characterized as rural, primarily comprised of agricultural land (orchards and rice fields) on both sides of SR99. Residences are scattered throughout the project area.

The California Department of Transportation's North Region Hazardous Waste office conducted an Initial Site Investigation (ISA) for the proposed project. The ISA was based on an analysis of findings from a preliminary site investigation (PSI), review of

the “Cortese list”, and a record search from VISTA Information Services. The ISA identified seven properties as having potential hazardous waste issues.

It is Caltrans policy when acquiring properties to avoid all potential aspects of hazardous waste issues whenever possible. Hazardous waste issues include impacts to soil and groundwater due to leaking underground storage tanks (USTs), surface spills, highway spills, asbestos containing material, lead-base paint, and aerial deposited lead (ADL).

### 3.3.2 Impacts

The following general criteria were used to evaluate the significance of hazardous waste impacts resulting from the proposed project. Would the proposed project:

- Create a potential health hazard?
- Involve the use, production, or disposal of materials that pose a hazard to human, animal, or plant populations in the project area?
- Create a risk of explosion or release of hazardous substance (including, but not limited to, pesticides or chemicals) in the event of an accident or upset?
- Pose a threat to public health and safety or the environment through release of emissions or risk of upset?
- Require a substantial expansion of hazardous materials response staff and equipment to ensure adequate response capability to accidental release of hazardous materials?
- Interfere with emergency response plans or emergency evacuation plans?

#### 3.3.2.1 Impact Discussion

Based on the PSI, review of the “Cortese List” and record searches by VISTA Information Services, there are a total of 11 properties (sites) with potential hazardous waste issues. Table 3-1 summarizes the possible hazardous waste sites by alternative.

**Table 3-1 – Potential Hazardous Waste Sites Per Alternative**

	ACM* & Lead-based Paint Only	Hydrocarbon & Groundwater Contamination Only	Both Hazardous Waste Issues	Total
Alternative 1	1	3	1	5

Alternative 2	1	3	0	4
Alternative 3	3	2	6	11

\*ACM: Asbestos Containing Material

The implementation of the proposed project would potentially disturb areas, which may contain hydrocarbon and groundwater contamination. Alternative 3 contains eight potential areas, the highest number for the three alternatives. Alternative 1 has four sites and Alternative 2 has three potentially contaminated areas within the proposed right of way.

Construction of the project would result in the demolition of existing houses and/or businesses. These structures could contain asbestos containing materials (ACMs) and/or lead-based paint. Prior to demolition, the structures would be inspected to determine the presence/absence of these substances.

Lead-contaminated soil may exist due to the historical use of leaded gasoline, leaded airline fuels, and waste incineration. The areas of primary concern in relation to highway facilities are soils along routes that have had high traffic volumes or high vehicle emissions due to congestion or stop and go situations during the time period that leaded gasoline was in use. For practical purposes, most Aerially Deposited Lead (ADL) due to automobile emissions would have been deposited prior to 1986. If the project area was constructed or reconstructed with clean material after 1986, it is likely that the levels of ADL contaminated soil are low. The only way to approximate the level of ADL contaminated soil is by sampling and testing the project area by performing a Preliminary Site Investigation (PSI). Depending on the test results, soil on the project may have to be managed as a hazardous waste in compliance with State and Federal laws.

### **Build Alternatives**

#### **Level of Impact:**

- Potentially adverse.
- This impact is considered less than significant under CEQA.

### **No-Build Alternative**

#### **Level of Impact:**

- No Impacts.

### 3.3.3 Mitigation

Caltrans shall perform a more detailed site investigation (Phase II Study) on the preferred alternative, including drilling of test holes and collection and laboratory analysis of collected soil and/or water samples, to confirm or dismiss potential hazardous waste issues.

Prior to commencing the Phase II study, a Health and Safety Plan shall be prepared which addresses the potential effect of the various chemical compounds that could be encountered at each property with potentially hazardous substance issues.

Upon confirmation of hazardous waste issues, responsible parties will be sought for cleanup activities. If Caltrans must clean up impacted properties, reimbursement of cleanup costs will be sought from the responsible party(ies).

Depending on final project design, existing houses and/or buildings could be demolished for construction of the project. These structures could contain ACMs and/or lead-based paint. Asbestos can pose a health risk if the fibers become airborne during removal and are inhaled. Dust and paint chips from lead-based paint can pose a health risk if they are inhaled or swallowed.

Before structures are demolished or disturbed an Asbestos Hazard Emergency Response Act (AHERA) trained inspector would be hired to determine the presence/absence of ACMs, and a Certified Lead Inspector/Assessor would determine the presence /absence of lead-based paint. If any structures were found to contain these substances, registered asbestos and/or lead abatement contractors would handle debris removal and disposal according to requirements set forth by the California Occupational Safety and Health Administration (Cal-OSHA) and the Feather River Air Quality Management District.

For impacted soils encountered on potential acquisition properties, possible cleanup technologies include excavation and disposal of the impacted soils at appropriately permitted landfills, extraction of contaminated vapors, and aeration or bioremediation of soil in situ or above ground. All soil remediation shall be performed within the existing policies, rules and regulations of governing regulatory agencies.

### **Build Alternatives**

#### **Level of Impact After Mitigation:**

- Beneficial impact, resulting from clean up of sites containing hazardous substances.

## 3.4 Air Quality

### 3.4.1 Affected Environment

The proposed project is located in the Sacramento Valley Air Basin (SVAB) and comes under the jurisdiction of the Feather River Air Quality Management District. The Feather River Air Quality Management District has jurisdiction for both Yuba and Sutter Counties. For each county, the Environmental Protection Agency (EPA) designates the status for meeting National Ambient Air Quality Standards (NAAQS) regulated under the Federal Clean Air Act. Sutter County's status for the National Standard is as follows: Transitional for Ozone, Unclassified/Attainment for particulate matter (PM 10), Unclassified/Attainment for nitrogen dioxide, sulfur dioxide, carbon monoxide, and sulfates.

The California Air Resources Board is the agency that designates the status of Sutter County for meeting the California Ambient Air Quality Standards (CAAQS). Sutter County's status for meeting the state standard is as follows: Moderate Non-Attainment for Ozone in Northern Sutter County and Serious Non-Attainment for Ozone in Southern Sutter County, and Non-Attainment for particulate matter (PM10), Attainment for Carbon Monoxide, Attainment/Unclassified for Nitrogen Dioxide, sulfur dioxide, and sulfates. Table 3-2 summarizes the attainment status for state and federal ambient air quality standards.

A project that is located in an area of nonattainment is required to do a regional conformity analysis. A conformity determination is made if a project is included in the Regional Transportation Plan (RTP) and the Transportation Improvement Program (TIP). This project is included in a current RTP and the TIP for which a California Environment Quality Act (CEQA) review has been conducted.

Within the State of California, naturally occurring asbestos is known to exist in serpentine rock. Serpentine, the "state rock" of California, is a greenish, greasy-looking rock that is common in the coast ranges, Klamath Mountains, and Sierra foothills. Asbestos is a potent carcinogen, particularly when inhaled. It is therefore regulated as an airborne toxic material, and strict limits are placed on its use and handling in working environments. To ensure that asbestos is not present in the project site, maps have to be consulted prior to project approval. A map of District 3 with known locations of serpentine rock is attached. From the map, Yuba County is

known to contain ultramafic rock, which is known to consist of serpentinite. Most of the area in this county that contains this rock is located in the Foothill area of this county. If asbestos is found, the Feather River Air Quality Management District Rule 11.6 must be adhered to when handling this material. State Route 99 goes through agricultural and residential areas of Sutter County and does not disturb any areas that are known to contain ultramafic rock. Therefore, construction of this project would not release any asbestos in to the air.

**Table 3-2 - Attainment Status of Feather River Air Quality Management District**

Attainment Status of Feather River Air Quality Management District with the State and Federal Standards			
Pollutant		State Standard	Federal Standard
$O_3$	<b>1 Hour Standard</b>	<u>Moderate Non-Attainment</u> for Yuba County and the Northern Portion of Sutter County <u>Serious Non-Attainment</u> for Southern Sutter County	Transitional
	<b>8 Hour Standard</b>	Not Applicable	Awaiting EPA Designation
$PM_{10}$		Non-Attainment	Unclassified/Attainment
$NO_2$		Unclassified/Attainment	Unclassified/Attainment
$SO_2$		Unclassified/Attainment	Unclassified/Attainment
$CO$		Attainment-Sutter County Unclassified-Yuba County	Unclassified/Attainment
Sulfates		Unclassified/Attainment	Unclassified/Attainment

### 3.4.2 Impacts

The following general criteria were used to evaluate the significance of air quality impacts resulting from the proposed project. Would the proposed project?

- Violate any ambient air quality standard?
- Contribute substantially to an existing air quality violation?
- Expose sensitive receptors to substantial pollutant concentrations?

#### 3.4.2.1 Impact Discussion

The air quality analysis results yield no violations of the National Ambient Air Quality Standards or the California Ambient Air Quality Standards. The modeled 1 and 8 hour CO concentrations for all build alternatives as well as the no build

alternative are well below the standards. Therefore, this project will have no air quality impacts to the region. Table 3-3 summarizes these air quality findings.

**Table 3-3 - Summary of CO Concentrations**

MAXIMUM CO CONCENTRATIONS AT RECEPTOR LOCATIONS ALONG PROPOSED ALTERNATIVES – 8 HOUR CONCENTRATIONS				
	Alternative 1 (2025)	Alternative 2 (2025)	Alternative 3 (2025)	No Build (2000)
ppm*	4.8	4.8	4.8	4.6

Source: Caline4 and screening procedure

California Ambient Air Quality Standards (CAAQS) for CO is 9.0ppm\*.

National Ambient Air Quality Standards (NAAQS) for CO is 9 ppm\*

\*ppm = parts per million

### **Construction Impacts**

Construction is a source of dust emissions that can have a substantial temporary impact on local air quality. Construction emissions would result from earthmoving (dust generation) and heavy equipment use. These emissions would be generated from land clearing, ground excavation, cut and fill operations, and the construction of the roadway itself. Dust emissions will vary substantially from day to day depending on the level of activity, the specific operations, and the prevailing weather.

### **All Build Alternatives**

#### **Level of Impact:**

- Less than adverse impact.
- This impact is considered less than significant under CEQA.

### **No-Build Alternative**

#### **Level of Impact:**

- No Impacts.

### **3.4.3 Mitigation**

Standard Best Management Practices (BMPs) would be implemented for the proposed project in accordance with Section 7.1.01F (Air Pollution Control), Section 10.1 (Dust Control) of the current Caltrans' Standard Specifications and with Feather River Air Quality Management District Rule 3.16 (Fugitive Dust Emissions).

## 3.5 Noise

### 3.5.1 Affected Environment

Agriculture is the primary land use in the project vicinity. Orchards and rice fields predominate in the project area; however, scattered residences do also exist along the SR 99. The exceptions to this predominately agricultural setting are clusters of residences at Central Ave and within the community of Tudor. Sixty-six existing residences and two churches along the SR99 were identified as noise sensitive receptors potentially affected by the proposed project. Noise levels within the project vicinity are dominated by highway traffic.

A field noise investigation was conducted to quantify existing noise levels at representative locations throughout the study area. Noise measurements were made using Larson Davis Model 820 and 812 Integrating Sound Level Meters. The Model 820 Sound Level Meters were equipped with G.R.A.S. Type 40AQ ½-inch random incidence microphones. The sound level measuring assemblies were calibrated prior to each measurement using either a Larson Davis Model CA250 or Model CAL200 Calibrator to comply with the American National Standards Institute (ANSI) standard S1.4-1971 for Type 1 (precision) sound level meters.

Sound32 and LeqV2, Caltrans' versions of the Federal Highway Administration's (FHWA's) Traffic Noise Prediction Models (FHWA-RD-77-108), were used in this analysis to establish existing noise levels and evaluate traffic noise for future design year conditions.

### 3.5.2 Impacts

Due to the length of the project, the noise impacts were analyzed by alternative. Based on roadway geometrics of the proposed project and the future traffic volumes provided by Caltrans Office of Traffic Forecasting and Modeling, future traffic noise levels were calculated for the build and no-build alternatives.

**Table 3-4 – Impacted Receptors by Alternative**

Potential Impact	Alternative 1	Alternative 2	Alternative 3	No Build Alternative	Minimization /Mitigation

Noise	# of receptors ≥ Leq 67 dBA	35	29	15	37	Not Feasible & Reasonable
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The following general criteria were used to evaluate the significance of noise impacts resulting from the proposed project. Would the proposed project:

- Substantially increase (by 12dBA,  $L_{eq(h)}$ ) the ambient noise levels at adjoining noise-sensitive land uses?
- Expose people to severe noise levels?

### 3.5.2.1 Impact Discussion

Based on traffic projections, noise levels without the project are predicted to increase by 3 to 5 dBA through 2025 as a result of increased vehicular traffic along SR 99. Traffic noise level increases would be about 2 dBA to 11 dBA over existing levels under Alternatives 1, 2, and 3. Noise level increases of about 2 dBA would occur at certain residences currently affected by traffic noise along the existing highway alignment. Noise level increases up to 11 dBA would occur at certain residences where the existing highway alignment is substantially altered.

Predicted noise levels are shown in Table 3-4 which indicate that Alternative 1 has 35 receptors (mostly residences) which would experience an increase in noise levels that approach and/or exceed the Noise Abatement Criterion (NAC) of 67 dBA  $L_{eq(h)}$ . Alternatives 2 and 3 have 29 and 15 receptors, respectively, which would experience levels approaching and/ or exceeding the NAC level. Due to the number of receptors predicted to experience noise levels that approach or exceed the NAC, noise abatement measures have been considered.

Under Caltrans and FHWA policies, feasible noise barriers must provide a minimum 5 dBA reduction in traffic noise. Furthermore, under Caltrans policies, noise barriers should interrupt the line of sight between a truck stack (of average height) and a receiver. Chapter 1100 of the Highway Design Manual identifies particular design guidelines that should be met for noise barriers, depending on roadway conditions.

The feasibility and reasonableness allowance of noise barriers was studied where receivers would be noise impacted. A preliminary calculation of the lengths and heights required for noise barriers to reduce noise levels by 5 dBA and block the line-of-sight to truck stacks was made for each impacted receiver location. These

preliminary calculations found that receivers between 40m and 130m from the roadway, which do not have direct access to SR99, could benefit from soundwalls of 3.0 (9.8 ft.) to 4.3 meters (14.1 ft.) high. For receivers which have direct access to the highway, sound walls of 3.7 (12.1 ft.) to 4.3 meters (14.1 ft.) high would be needed.

Many of the impacted receivers are isolated and, therefore, would require individual noise barriers. In addition, many of these receivers have driveway access which reduces the effectiveness of noise barriers. The cost of constructing a barrier to benefit a lone receiver and maintain the current access requirement would exceed the reasonableness allowance for an individual receiver. Therefore, no soundwall construction is proposed.

### 3.5.2.2 Construction Noise Impacts

Construction activities associated with the SR 99 Project include roadway widening and new highway alignment construction. Highway construction activities do not typically stay in one location for long periods. Noise sensitive receivers in a given location would not be exposed to noise generated by construction for extended periods. Table 3-5 summarizes typical noise levels generated by construction equipment at a distance of 15 meters (49.2 ft). Noise generated by construction equipment drops off at a rate of 6 dB per doubling of distance. The following standard practices will reduce construction noise impacts:

- The contractor shall comply with all local sound control and noise levels rules, regulations and ordinances which apply to any work performed pursuant to the contract (Caltrans Standard Specification Section 7-1.01(I) “Sound control requirements”).
- Each internal combustion engine, used for any purpose on the job or related to the job, shall be equipped with a muffler of a type recommended by the manufacturer. No internal combustion engine shall be operated on the project without the muffler (Caltrans Standard Specifications Section 7-1.01(I) “Sound control requirements”).
- Stationary construction equipment, such as compressors and generators, should be shielded and located as far away as feasible from receptor locations.
- Place any maintenance yard, batch plant, haul roads, and other construction operations as far as possible from sensitive receptor locations.
- A Traffic Management Plan will provide methods and restrictions to minimize construction traffic impacts to residents.

Implementing Caltrans' standard construction practices will minimize the construction impacts of this project.

**Table 3-5 - Construction Equipment Noise**

Type of Construction Equipment	Maximum Level, dBA at 15 meters
Scrapers	89
Bulldozers	85
Heavy trucks	88
Backhoe	80
Pneumatic tools	85
Concrete Pump	82
Impact Pile Driver	95 to 105

Source: NCHRP, 1999

### **Build Alternatives**

#### **Level of Impacts:**

- Potentially adverse.
- This impact is considered not significant under CEQA.

### **No-Build Alternative**

#### **Level of Impact:**

- No Impacts

### **3.5.3 Mitigation**

This noise study included an analysis of the noise reduction from sound walls for various receiver setback conditions for cases with and without driveway access. These preliminary calculations found that impacted receivers between 40 m (131.2 ft) and 130 m (426.5 ft) from the roadway, which do not have direct driveway access to SR 99, could benefit from sound walls of 3.0 to 4.3 meters (9.8 – 14.1 ft) high. For receivers which require direct driveway access to SR 99, longer and taller sound walls would be necessary to provide a feasible benefit. Preliminary calculations indicate that sound walls would have to be 3.7 to 4.3 meters (12.1 – 14.1 ft) high and range in lengths from about 120 m to 215m (393.7 – 705.4 ft).

Due to the distribution and locations of the residences which may be impacted, from a cost standpoint, it is clearly unreasonable to construct a sound wall within the right of way to protect only one residence. The calculated reasonableness allowance per benefited residence ranged from \$29,000 to \$35,000 (Illingworth & Rodkin, 2001.) The noise study (Illingworth & Rodkin, 2001), found that 24 residences would each require a soundwall, which means that the total soundwall cost could not exceed \$768,000. Based on calculations from the noise study, the actual total cost of these soundwalls would range between \$2,790,875 and \$3,152,250 which substantially exceeds the allowable cost of \$768,000 calculated according to the reasonableness criteria.

Alternative 3 (Preferred Alternative) does not have receivers which experience an increase of 12 dBA or more. In addition, of the 15 receptors which meet or exceed the NAC, the No Build would also meet, and in many cases exceed, the NAC. There would be no substantial noise impacts associated with the preferred alternative.

#### **Level of Impact After Mitigation:**

#### **Build Alternatives**

- Less than adverse impact.
- This impact is considered not significant under CEQA.

### **3.6 Wetlands and Waters of the U.S.**

Wetlands are defined as “areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support a prevalence of vegetation typically adapted for life in saturated soil conditions.” The “other waters of the U.S.” includes seasonal or perennial waters (creeks, lakes or ponds) and other types of habitats that lack one or more of three technical criteria for wetlands (soil, hydrology, vegetation). The Army Corp. of Engineers (ACOE) has authority under Section 404 of the Clean Water Act to regulate activities that could discharge fill or dredge material into, or otherwise adversely modify these resources. Permits issued by ACOE require mitigation to offset impacts to ensure no net loss of wetland acreage or value. Individual and Nationwide Permits are required for projects which have the potential for varying amounts of impact to wetlands.

### 3.6.1 Affected Environment

The study area is a linear corridor following existing State Route 99 through the central and southeastern sections of Sutter County. The proposed project lies within the flat topography of the Sacramento Valley. The elevations range from 25-45 feet above sea level.

The Sacramento Valley was historically a large riparian floodplain. For the last two centuries, man has significantly altered the landscape for the purpose of agriculture. All that remains of the original habitat are small strips of riparian vegetation that closely follow the larger rivers and streams. The land has been converted, primarily in the past two centuries, to agriculture land. From the south to the north, there are rice fields, grain cultivation, orchards and some row crops.

#### 3.6.1.1 Study Methodology

A variety of methods were used to study the project area in order to comply with the provisions of various state and federal environmental statutes and executive orders. The presence of natural resources and potential for wetlands to occur were investigated and documented by utilizing the methodology set forth in the *1987 Wetlands Delineation Manual* from the ACOE. A positive determination for wetlands was made based on the presence of hydrophytic vegetation, hydric soils, and wetland hydrology.

The predominant form of wetlands and waters of U.S. within the study area are riverine sloughs (waters/wetlands), agricultural ditches and roadside ditches (Figure 3-1 a-c).

**Waters/Wetlands:** Bunkham, Ping and Nelson Sloughs are all considered wetlands and waters. In addition, the Feather River is considered waters of the U.S. Wetlands are defined by meeting the three parameters set forth by the 1987 Wetland delineation manual. Freshwater emergent wetlands are among the most productive wildlife habitats in California, providing forage, cover and water for numerous birds, mammals, reptiles, amphibians and invertebrates (CDFFP, 1988).

**Agricultural Irrigation Ditches:** These are ditches that usually flow adjacent or within orchards, croplands and rice fields. Most of these ditches are routinely maintained and lack the vegetative cover that makes emergent wetlands so valuable to wildlife. These ditches are located throughout the project area

**Roadside Ditches:** These are ditches within the Caltrans right of way used to convey roadside runoff away from the highway. Within the project area most of these ditches do not retain water long enough to create wetlands. These ditches are maintained annually by the Caltrans maintenance crews to prevent vegetation from establishing and inhibit water from flowing away from the highway. When water is present, primarily during the winter/spring, some bird species may be seen foraging within these ditches including Great blue herons (*Ardea herodias*), Great egrets (*Casmerodius albus*) and Snow egrets (*Leucophoyx thula*).

**Figure 3-1a – Locations of Wetlands and Waters Segment 1**

**Figure 3-1b – Locations of Wetlands and Waters Segment 2 (Feather River Bridge)**

**Figure 3-1c – Locations of Wetlands and Waters Segment 4 (Tudor Bypass)**

### 3.6.1.2 Wetlands/Waters of the US

BUNKHAM SLOUGH is considered Waters of the U.S. Within the slough, along the margins, wetlands have established. Bunkham slough originates east of the project area and heads west under the existing highway. This slough appears to be fed by agricultural fields and wells in the area in addition to its natural source. Bunkham slough feeds into one canal, which then feeds into Cross Canal and right after that drains into the Sacramento River.

COON CREEK is considered Waters of the U.S. Like Bunkham Slough, the margins of Coon Creek contain wetlands as delineated under the 1987 ACOE manual. Coon Creek comes from east of Highway 70 before it crosses under existing Highway 99. To the west of the highway, Coon Creek converges with Ping Slough. They drain into Main Canal and then into the Sacramento River.

PING SLOUGH is similar to Bunkham Slough and Coon Creek. It is primarily waters of the U.S., but along the margins wetlands have established. Ping Slough originates Northeast of the project area, east of Highway 70. Ping Slough converges with Coon Creek and eventually drains into the Sacramento River south of the project area.

FEATHER RIVER is a navigable Waters of the U.S. and falls under Section 10 of the Rivers and Harbors Act. This portion of the Act is under the jurisdiction of the Coast Guard. The Feather River is within levee boundaries and is bordered on the north side by the Feather River State Wildlife Area. There is a small backwater area on the south side of the bridge that provides excellent foraging habitat for birds. This backwater area has wetlands along the margin.

NELSON SLOUGH is within the confines of the levee, north of the Feather River. During peak storm events, Nelson Slough converges within the levees with the Feather River. Within the project limits this slough has more developed riparian and lacks the emergent wetlands that Ping and Bunkham sloughs have. Nelson Slough drains directly into the east canal and then into the Sacramento River a few miles south. This slough was dry during the summer months.

### 3.6.2 Impacts

Impact criterias define the level of direct and indirect impacts on wetlands and Waters of the U.S. The purpose of the impact criteria is to help determine when an impact is adverse under NEPA and significant under CEQA.

The following general criteria were used to evaluate the impacts of the proposed project on Wetlands and Waters of the U.S. Will the project result in:

- Removal, filling, grading, or disturbance of wetland, riparian, and stream corridors?

Wetlands and “Other Waters” can be impacted in two ways: 1) Fill and Diversion and 2) Water Quality. Under fill and diversion there can be temporary and permanent impacts. Water quality could have permanent impacts; however, there are numerous regulations that prevent permanent impacts and reduce temporary impacts. A summary of impacts are given in Table 3.6b.

### **3.6.2.1 Impact Discussion**

#### **Impacts from Fill and Diversion**

Temporary impacts to wetlands include the temporary fill of wetlands during construction which would be removed immediately following construction, the temporary disturbance to vegetation and the temporary dewatering which may be required. Temporary impacts may be required during construction for the following reasons: 1) to provide access to other construction areas, 2) to provide equipment access for work on culverts and/or, 3) to dewater to maintain water quality standards during construction.

#### **Temporary Impacts to “Other Waters”**

Temporary impacts to waters consist of dewatering during construction. Areas would be dewatered primarily to maintain water quality. Areas that are dewatered would be returned to the pre-construction state and the water returned to the pre-existing channel. Dewatering would not be a significant impact to the environment.

#### **Permanent Impacts to Wetlands**

Permanent impacts to wetlands occur where areas defined as wetlands are filled. Within the Sutter 99 widening project, fill includes the extension of culverts into wetland areas and the placement of bridge footings in areas delineated as wetlands. Once an alternative is selected, the design will be refined so that impacts to wetland areas will be the minimal amount necessary to construct the project. Mitigation will be incorporated to offset the loss of wetlands. There will be no net loss of wetlands from this project.

### **Permanent Impacts to “Other Waters”**

There will be no permanent impacts to “Other Waters”. A permanent impact to “Other Waters” would consist of a complete impairment to the waterbody. No portion of this project will completely impair or impede the flow of a water body. Even placement of piers in the Feather River will not impede the flow of the water. Since the flow will remain the same, there will be no significant impact from the fill in “other waters”.

### **Areas of Fill and Diversion**

COON CREEK will be permanently and temporarily impacted by this project. The existing culvert will be extended in order to widen the highway. There will be temporary loss of wetlands and waters during the construction of the culvert. If there is water in the creek, the area will need to be temporarily dewatered during construction. There will be permanent fill of the wetlands along the margin of the creek. Flow will be maintained through a longer culvert following construction activities.

PING SLOUGH will be permanently and temporarily impacted by this project. The existing culvert will be extended in order to widen the highway. There will be temporary loss of wetlands and waters during the construction of the culvert. If there is water in the creek, the area will need to be temporarily dewatered during construction. There will be permanent fill of the wetlands along the margin of the creek. Flow will be maintained through a longer culvert, following construction activities.

FEATHER RIVER will be the most significantly impacted waters within the project limits. There will be a new parallel two-lane bridge placed on the east side of the existing bridge. This will require fill for the new piers. The amount of fill used will be the minimal amount necessary to construct the new bridge over the Feather River. There will be temporary water diversion in the form of cofferdams during the construction phase of the piers. There will be temporary fill during construction for the purpose of providing access to the piers that are not adjacent to existing upland work areas, this fill will be in the form of falsework, trestles, and platforms.

NELSON SLOUGH will be temporarily impacted during construction. Permanent losses will be limited to loss of riparian habitat. The new piers and footings should be parallel with the existing bridge. It is not expected that there will be any permanent fill of Nelson Slough. Access to the Feather River may require the temporary

culverting of Nelson Slough for the purpose of creating a crossing on the north side of the Feather River State Wildlife.

IRRIGATION DITCHES will be temporarily impacted with the widening of State Route 99. There are seven irrigation canals throughout the project study limits. The temporary impacts may include temporary diversion of the water during the lengthening of the roadway culvert. There will be no permanent impacts because the water will still flow through the culverts and to the fields following construction.

**Table 3-6 - Amount of Impacts to Wetlands and Waters of the U.S.**

Body of Water	Type	Temporary Impacts to Wetlands* hectares (acres)	Temporary Impacts to "Other Waters"* hectares (acres)	Permanent Impacts to Wetlands* hectares (acres)	Permanent Impacts to "Other Waters"* hectares (acres)
Bunkham Slough	"Wetlands" and "Other Waters"	0.008(0.02)	0.06(0.15)	None	None
Coon Creek	"Wetlands" and "Other Waters"	0.004 (0.012)	0.009(0.023)	0.001(0.001)	0.001 (0.002)
Ping Slough	"Wetlands" and "Other Waters"	0.006 (0.015)	0.012(0.031)	0.001(0.002)	0.002 (0.006)
The Feather River (main channel)	"Other Waters"	0	0.101(0.25)	0	0.101 (0.25)
The Feather River (backwater area)	"Wetlands"	0.156 (0.387)	0.054(0.135)	0.012 (0.03)	0.364 (0.901)
Nelson Slough	"Wetlands" and "Other Waters"	0.0	0.005 (0.014)	0.000	0.003 (0.007)
Irrigation Ditch 1	Waters	0.002 (0.006)	0.005 (0.013)	0.001 (0.002)	0.001 (0.003)
Irrigation Ditch 2	Waters	0	0	0	0
Irrigation Ditch 3	Waters	0	0.006 (0.016)	0	0.002 (0.005)
Irrigation Ditch 4	Waters	0.01 (0.036)	0.026 (0.066)	0.02 (0.05)	0.002 (0.004)
Irrigation Ditch 5	Waters	0.002 (0.006)	0	0	0
Irrigation Ditch 6	Waters	0	0	0	0
Irrigation Ditch 7	Waters	0.01 (0.032)	0.04 (0.104)	0.004 (0.012)	0.005 (0.013)
TOTAL IMPACTS	N/A	0.208 (0.514)	0.32 (0.802)	0.039 (0.097)	0.481 (1.19)

\*Impact amounts are associated with the preferred alternative.

## **All Build Alternatives**

### **Level of Impact:**

- Adverse impact.
- This impact is considered significant under CEQA.

## **No Build Alternative**

### **Level of Impact:**

- No impact.

### **3.6.3 Mitigation**

#### **3.6.3.1 Wetlands**

The minimal amount necessary will be disturbed during the construction of the widening. Standard BMPs (addressed below) will be implemented for both short-term and long-term impacts on wetlands and other waters to minimize water quality degradation. Permanent impacts to wetlands will be mitigated offsite at a ratio to be determined by the Regional Water Quality Control Board and U.S. Army Corp of Engineers following the selection of an alternative.

As shown in Table 3.6, the preferred alternative would have .208 ha (0.514 acres) of temporary impacts to wetlands, .039 ha (0.097 acres) of permanent impacts to wetlands, .32 ha (.802 acres) of temporary impacts to “other waters” and .48 ha (1.19 ac) of impacts to “other waters”.

Temporary impacts to wetlands will be mitigated in place following construction. The affected areas will be returned to their pre-construction state. If revegetation is needed, native plant species (common and adapted to a wetland habitat) will be used to revegetate.

Permanent impacts to wetlands will be mitigated under the guidance of the regulatory agencies, primarily the Army Corp of Engineers at a ratio and in a location that is acceptable. There are two options for mitigation including the purchasing of credits at an approved mitigation bank or the creation of wetlands within the project area. Mitigation will result in no net loss of wetlands.

## **All Build Alternatives**

### **Level of Impact After Mitigation:**

- Less than adverse impact.
- This impact is considered less than significant under CEQA.

## **3.7 Vegetation and Invasive Species/Wildlife**

### **3.7.1 Affected Environment**

#### **Natural Habitat**

The SR 99 corridor in Sutter County has been significantly altered over the last 150 years from settlement, agricultural practices and industrialism. Natural habitat would be considered areas that contain an ecosystem similar to that which was in the Central Valley prior to settlement by Euro-Americans. Literature describes the Central Valley as a vast area of grassland, variable woodland and riparian corridors marked with gallery forests of cottonwoods, valley oaks and willow. There are limited areas within the project area that still contain what would be considered natural habitat.

Most grassland areas have been converted to agriculture lands, orchards, row crops or rice fields. Open grassland, once dominated by native vegetation, is now inundated with non-native plants and limited to small areas along the highway and areas not being farmed. Species that rely on grassland have adapted to using fallow fields, row croplands and roadsides.

Significant human impacts in the Central Valley have left very little woodland. Woodland areas were converted to croplands and orchards. Woodland is now limited to a few sparse clumps of trees between the highway and the fields, large trees planted near homes and rows of trees either planted or left for windbreaks. Woodland is an important component to the Central Valley. The bird populations have suffered the most from the loss of woodland habitat because the lack of trees limits nesting and perching habitat (Figure 3-2 a-b).

**Figure 3-2a – Habitat Types and Locations Segments 1 and 2**

**Figure 3-2b – Habitat Types and Locations Segment 4**

## Annual Grassland

Annual Grassland is primarily comprised of non-native grass species including wild oats (*Avena fatua*), brome (*Bromus sp.*), Mediterranean barley (*Hordeum leporinum*) and invasive species like yellow star thistle (*Centaurea solstitialis*) and prickly lettuce (*Lactuca serriola*).

Annual grassland is found in the area between the existing highway and the right-of-way fence, lining most of the roadside ditches, in areas adjacent to the highway where there is no agriculture occurring and alongside houses and buildings where there is no landscaping.

Although primarily non-native, the annual grassland throughout the project area does provide some foraging habitat for birds, rodents and mammals including gray fox (*Urocyon cinereoargenteus*), Brewer's blackbird (*Euphagus cyanocephalus*), Northern harrier (*Circus cyaneus*) and California ground squirrel (*Spermophilus beecheyi*).

## Cropland

There are a variety of crops being grown adjacent to the existing highway, which include barley, hay, alfalfa and rice. These areas are highly disturbed; however, they do provide a variety of habitat. The southern end of the project contains a higher percentage of cropland. From just south of Tudor to O' Banion Road there are predominately orchards.

Birds are commonly seen using croplands for foraging. The following birds were seen foraging during field surveys conducted by Caltrans: Greater Sandhill crane (*Grus Canadensis tabida*), Great blue herons (*Ardea herodias*), Great egrets (*Casmerodius albus*) and Snow egrets (*Leucophoyx thula*). Surveys completed by Department of Fish and Game north of Sacramento showed that in July some of the common species found in rice fields include: American bitterns (*Botaurus lentiginosus*), American coots (*Fulica Americana*) and Greater Sandhill Crane (*Grus Canadensis tabida*).

During the winter, the Central Valley is an integral part of the Pacific Flyway. Dry rice fields are used by geese and swans for foraging. Flooded rice fields are used by these species for roosting and feeding (Hobaugh, 1984).

Cereal grain crops are commonly used by Greater Sandhill crane in the winter for foraging although they too will be seen using rice fields

Rice fields provide important habitat during late summer, when the fields are flooded and contain large numbers of mosquitofish (*Gambusia affinis*) and other food items. This food source may be especially important to newborn Giant Garter Snake (Hansen unpubl. notes).

The grain crops provide excellent foraging habitat for Swainson's hawk (*Buteo swainsoni*). They have been seen within the project area, near Striplin Road, using fields for foraging. They are nesting in a tree adjacent to the foraging grounds where they can watch for their prey.

### **Orchard**

Fruit and nut orchards are adjacent to the north half of the project area. These areas are significantly disturbed and provide little habitat to wildlife species; however, there are a couple of species that are commonly observed utilizing orchards for foraging: Common raven (*Corvus corax*), Yellow-billed magpie (*Pica nutallii*) and Brewer's blackbird (*Euphagus cyanocephalus*).

### **Riparian Woodland**

There are small sparse areas of riparian woodland throughout the project area. The largest remnant of this habitat type is found along the Feather River and at Nelson Slough. These sparse remnants often consist of cottonwood (*Populus sps.*), willows (*Salix sp.*) and singular valley oaks (*Quercus lobata*).

The large areas around the main rivers and streams often provide the only dense multi-storied habitat available to birds, amphibians, mammals and reptiles in the valley. Riparian areas also provide prime migration, foraging and breeding habitat for neo-tropical birds (CDFFP, 1988).

Species common to riparian woodland include the following: Belted Kingfisher (*Ceryle alcyon*), Nuttall's Woodpecker (*Picoides nuttallii*) and River Otter (*Lutra canadensis*).

### **Eucalyptus Grove**

Eucalyptuses have been artificially established throughout many regions of California. They have been planted for erosion control and in urban areas for landscaping. They appear sporadically throughout the project area, mostly associated with homes and other buildings. Eucalyptus trees provide roosting, nesting and

perching habitat for species such as the common raven (*Corvus corax*), barn owl (*Tyto alba*) and red-shouldered hawk (*Buteo lineatus*).

### **Noxious Weeds/Invasive Species**

If the area adjacent to the project area were less modified, a significant concern would be the introduction and spread of noxious weeds. The only area that is not entirely overrun with non-native vegetation is the riparian/slough area of the Feather River. The rest of the project and adjacent agricultural/residential areas are comprised primarily of species that are non-native. The grasses, which historically would have been species of bunch grass, are now wild oat and species brought in from Europe with cattle.

### **Pacific Flyway, Winter Foraging Habitat**

The Central Valley is a key component of the Pacific Flyway. The Pacific Flyway is the path from Alaska that migrating birds take to get to their winter foraging grounds. The Central Valley provides a stopover, as well as a destination for a variety of species including, but not limited to, waterfowl and raptors. The Sacramento/Central Valley provides sixty percent of the wintering area for ducks and geese in the Flyway and habitat for twenty percent of the entire North American winter waterfowl population. (CDFG – Draft Mitigation, 1993)

The rice fields and fallow croplands emulate the flooded habitat that existed prior to the channelization and conversion of natural waterways. They provide the food, water, cover and space critical to the survival of these species. Breeding ducks rely heavily upon the various stages of rice cultivation.

Besides ducks and geese, there are other species that rely on the Central Valley habitat including Greater Sandhill Cranes, Blue Herons, Egrets (several species) and Marsh Waders (ie. White-faced Ibis). Raptors that migrate from Alaska and Canada also rely on the Central Valley and these species primarily forage in fallow fields and fields that were recently harvested. Many raptor species rely on the few remaining trees to perch and roost in.

### **Feather River State Wildlife Area**

The area between the levees where the existing Feather River Bridge is located, is the Feather River State Wildlife Area. This is an area managed by the Department of Fish and Game. The habitat consists of riparian vegetation with valley oaks, willows

and cottonwoods. Both Nelson Slough and the Feather River run through the wildlife area.

### **Aquatic Habitat**

Aquatic habitats consist of Waters, Wetlands, Agricultural Ditches and Roadside Ditches. Some of these features are more valuable to wildlife than others and some fall under the jurisdiction of regulatory agencies. Technically, under the jurisdiction of the U.S. Army Corps of Engineers who regulate the Federal Clean Water Act, waters is broken down into two categories: 1) Wetlands (vegetated waterways that have the three parameters outlined by the 1987 Manual) such as marshes and swamps. 2) Other Waters such as streams, rivers, lakes, ponds, bays and oceans.

### **3.7.2 Impacts**

Impact criterias define the level of direct and indirect impacts on Vegetation and Invasive Species/Wildlife species. The purpose of the establishing criteria is to help determine when an impact is adverse under NEPA and significant under CEQA.

Does the project result in:

- Substantial loss of common natural communities that provide habitat for wildlife?
- Substantial reduction in habitat for fish, wildlife, or plants?
- Disruption of natural wildlife movement corridors?
- Fragmentation or isolation of wildlife habitats, especially riparian, oak woodland, and wetland habitats?

#### **3.7.2.1 Impact Discussion**

##### **Natural Habitat**

The impacts will be limited along the SR 99 corridor. Previous road projects and agricultural activities have significantly altered the land proposed for the highway widening. The remaining habitat in the project area is very limited for use as wildlife habitat. Birds and small mammals use some of the fields, orchards and open grasslands. Amphibians, reptiles and fish use the waterways and the small riparian area along the Feather River.

The following impacts are expected to occur as a result of this project:

- Removal of riparian habitat at the Feather River and Nelson Slough. Most of the trees and willows were removed in previous projects.
- Take of winter foraging grounds for migratory birds (this impact is addressed in further detail under the Endangered and Threatened Species section).
- Ground disturbance during construction could lead to the introduction of noxious weeds. This impact is not expected to be significant since the area is already inundated with non-native vegetation.
- Loss of cultivated fields, orchards and grasslands
- Removal of trees, native and non-native, throughout the corridor.

There will be .61ha (1.5 ac) of riparian forest removed permanently and 2.0 ha (5.0 acres) impacted temporarily. In addition, less than one acre of wetland habitat will permanently and temporarily impacted (Table 3-9). This project is not expected to increase habitat fragmentation previously caused by agricultural land uses, existing roadway and urbanization.

**Table 3-7 – Pacific Flyway and Riparian Habitat Impacts**

Resource		Alternative 1 ha (acre)	Alternative 2 ha (acre)	Alternative 3 ha (acre)
Pacific Flyway Habitat		66.3 (164)	83.3 (206)	43 (106)
Wetlands				
	Permanent	.22 (.56)	.22 (.56)	.22 (.56)
	Temporary	.14 (.342)	.14 (.342)	.14 (.342)
Riparian Wetlands				
	Permanent	.61 (1.5)	.61 (1.5)	.61 (1.5)
	Temporary	2.0 (5.0)	2.0 (5.0)	2.0 (5.0)

#### Noxious Weeds/Invasive Species

A recently signed Executive Order, EO 13112, directs federal agencies to combat the introduction or spread of invasive plant species in the United States. In response to this EO, FHWA is requiring an analysis of the risk for any federal funded action to cause or promote the introduction or spread of invasive species.

The amount and type of noxious weeds and invasive species is not expected to increase more than the existing pre-construction condition. Following construction the slopes, bare areas and bioswales will be revegetated with native grass and herb species. Following construction and after a period of time, the affected area should be closer to a natural habitat condition than what currently exists.

## **Habitat Fragmentation**

This project is not expected to increase habitat fragmentation more than the pre-construction condition. The SR 99 corridor has been significantly altered in the last 150 years and the habitat that remains is already fragmented. There will be some take of riparian habitat at the Feather River Bridge at both the north and south ends of the bridge. The previous bridge construction and subsequent widening project already cleared a wide swath of riparian vegetation and fragmented the habitat.

## **Pacific Flyway/Winter Foraging Habitat**

There will be acquisition, or in some areas modification, of habitat used by birds migrating along the Pacific Flyway. The acquisition will result in the conversion of croplands, open grassy roadside, irrigation canals and rice fields to highway, shoulder and new recovery zones. The estimated take will be 42.8 ha (106 ac) within the project study limits.

## **Feather River Wildlife Area**

Caltrans has an easement under the existing bridge and will be working with the Department of Fish and Game to widen the easement. Under previous widenings, Caltrans has compensated the Department of Fish and Game for the loss of land. Within the new easement will be a new bridge parallel to the existing bridge. There will be some loss of riparian habitat at Nelson Slough and the Feather River.

Caltrans is proposing to use 12.1 ha (30 ac) for a temporary construction staging area and access for the new bridge between the levees. Caltrans is only proposing to permanently acquire 0.8 ha (2.0 ac) of land for the actual bridge location. These same 12 ha (30 ac) were used previously for staging during the widening of the existing Feather River Bridge.

There will be temporary impacts to the wildlife area between the levees during construction. Temporary impacts include the presence of large heavy equipment, materials, personnel, etc. Ground disturbance, other than the placement of the bridge piers, is expected to be temporary, occurring during construction of the bridge. Because the duration of construction is expected to exceed one season the construction materials will be removed in the fall, as the area is in a flood plain. Environmentally Sensitive Areas have been designated to protect sensitive resources. The area will be revegetated per specifications by DFG.

### **All Build Alternatives**

#### **Level of Impact:**

- Adverse impact.
- This impact is considered significant under CEQA.

### **No-Build Alternative**

#### **Level of Impact:**

- No Impacts.

### **3.7.3 Mitigation**

#### **Natural Habitat**

Caltrans will work with the Department of Fish and Game to develop onsite and offsite mitigation for the loss of riparian forest habitat. Mitigation will be proposed for direct and indirect impacts to listed species. The project biologist will work with the design engineers to avoid as many trees as possible and to minimize the loss of riparian habitat. The biologist will also work with landscape to incorporate additional tree planting as part of the landscape for trees removed during construction.

#### **Noxious Weeds**

Caltrans will implement standard weed control specifications for the construction period. Following construction, the project biologist will work with the landscape department to develop a mitigation plan that will include intensive replanting of native vegetation.

The proposed revegetation measures for all disturbed soils, including the use of native species, soil amendments and “weed free” mulch reduces the risk of introducing noxious weeds.

#### **Pacific Flyway/Winter Foraging Habitat**

Caltrans will consult with the Department of Fish and Game to determine the exact value of the habitat present in the project area and to establish mitigation for the loss of habitat. Some mitigation measures that have been proposed for similar losses include putting cropland into a conservation easement or converting lands to natural wetlands. Most mitigation will be obtained through mitigating for Giant Garter

Snake and Swainson's Hawk. The biologist will work with the design engineers to modify the design and limit the impacts to this habitat.

### Feather River

Caltrans is proposing the permanent acquisition of 0.8 ha (2.0 ac) of The Feather River Wildlife Area from the Department of Fish and Game. In accordance with the Section 4(f) consultation, the Department of Fish and Game will be compensated for the acquisition. Following the Federal Highway Administration approval of the Programmatic 4(f), the Department of Fish and Game will be compensated the fair market value of the land and improvements. Caltrans is prepared to mitigate permanent acquisition at a ratio of 2:1. Because the temporary impacts are considered long-term impacts (since it is expected that construction will last for a minimum of three seasons), Caltrans has proposed onsite restoration of the 12 ha (30 ac) and an additional compensation at 1.5:1 for the long term temporary impacts.

**Table 3-8-Summary of DFG Mitigation Compensation**

IMPACT	HA(AC)	PROPOSED COMPENSATION RATIO	TOTAL COMPENSATION
Permanent	0.8 (2)	2:1	1.6 (4ac)
Temporary	12.1 (30)	1.5:1	30 acres onsite restoration  Compensation at a value of 6 ha (15 ac)
<b>TOTAL</b>			<b>7.7 ha (19 ac)</b>

During consultation with the Department of Fish and Game, Caltrans proposed several compensation methods for the additional 7.7 ha (19 acres), including the following:

1. Pay directly to the Department of Fish and Game the fair market value of 7.7 ha (19 acres), or
2. Contribute the pro-rated 7.7 ha (19 acre) value towards the purchase of a larger parcel, or
3. Purchase riparian credits at an established bank at the nearest available location to the project, or

4. Establish a conservation easement in the interest of the Department of Fish and Game at an adjacent parcel for the pro-rated value of the 7.7 ha (19 acres).

Please see Appendix D for the Programmatic Section 4(f) Evaluation.

### **All Build Alternatives**

#### **Level of Impact After Mitigation:**

- Less than adverse impact.
- This impact is considered less than significant under CEQA.

## **3.8 Special Status Species**

Special Status species are plants, animals and fish which are considered rare, threatened and/or endangered within the State or region by local, state and/or federal resource conservation agencies. These agencies include the US Fish and Wildlife Service (USFWS), National Oceanographic Atmospheric Administration (NOAA Fisheries), California Department of Fish and Game (CDFG) and the California Native Plant Society (CNPS). These agencies protect and manage special status species and potential special status species under the guise of federal Endangered Species Act (ESA), California Endangered Species Act (CESA), California Fish and Game Code, and the California Native Plant Protection Act.

### **3.8.1 Affected Environment**

The project area, which has been extensively disturbed by agriculture, is characterized by fragmented pockets of natural habitat. The largest remnants are located along the Feather River and Nelson Slough. Due to this fragmentation, the potential for the occurrence of special status species has been greatly compromised. To identify species of potential concern, Caltrans consulted State and Federal sensitive species lists and the California Natural Diversity Database (CNDDB, 2001). The following annotated table lists special status species, which may occur or are present in the project area. Many of species listed have not been observed in the project area, but potential habitat is present.

**Table 3-9 - Special Status Species Known or Potentially Occurring Within The Project Area**

03-Sut-99

Taxa	Scientific Name	Common Name	Federal/State/CDFG/CNPS	Distribution	Habitat Requirements	Habitat Present in Project Area
AMPHIBIANS	<i>Ambystoma californiense</i>	California Tiger salamander	FSC/CSC/Protected	Central Valley up to approximately 305m. From Butte County south to Santa Barbara County	Small ponds, lakes or vernal pools in grass-land and oak woodlands for larvae; rodent burrows, rock crevices or fallen logs for summer dormancy	No
	<i>Rana aurora draytonii</i>	California red-legged frog	FT/CSC/Protected	Occurs west of the Sierra-Cascade crest and along the Coast Ranges the entire length of the state, usually below 1200m.	Inhabits quiet pools of streams, marshes and occasionally ponds. Prefers shorelines with extensive vegetation	No
	<i>Rana boylei</i>	Foothill yellow-legged frog	FSC/CSC/Protected	Occurs in the Klamath, Cascade, North Coast, South Coast and Sierra Nevada Ranges up to approximately 1,830 m.	Creeks or rivers in woodlands or forests with rock and gravel substrate and low overhanging vegetation along the edge; usually found near riffles with rocks and sunny banks	No
	<i>Scaphiophus hammondi</i>	Western Spadefoot toad	FSC/CSC/Protected	Throughout the Central Valley and adjacent foothills. Elevations of occurrence extend from sea level to 1363m.	Primarily in grassland situations, occasionally in valley-foothill hardwood woodlands	No
BIRDS	<i>Agelaius tricolor</i>	Tricolored blackbird	FSC/CSC/FWS:MN BMC	Permanent resident in the Central Valley from Butte County to Kern County. Breeds in other scattered locations like Lake, Sonoma and Solano Counties.	Nests in dense colonies in emergent marsh vegetation, such as tules and cattails. Habitat must be large enough to support 50 pairs. Requires large foraging areas like marshes, where insect prey is abundant.	Yes
	<i>Ardea herodias</i>	Great Blue Heron	/CSC//	Common throughout north America, often in lowland riparian areas	Often found in riparian areas and nests in large snags. Feeds on snakes, small fish, frogs rodents and sometimes other birds	Yes
	<i>Athene cunicularia</i>	Burrowing owl	FSC/CSC/FWS:MN BMC	Lowlands throughout California, including the Central Valley and coastal areas.	Level, open, dry, heavily grazed or low stature grassland with available burrows.	Yes
	<i>Branta canadensis leucopareia</i>	Aleutian Canada goose	Delisted/	Winters in Butte sink, Los Banos, Modesto and Delta before migrating north to breeding grounds	Roosts in large marshes, flooded fields, stock ponds and reservoirs. Forages in pastures, meadows and harvested grainfields	Yes
	<i>Buteo regalis</i>	Ferruginous hawk	FSC/CSC/FWS:MN BMC	Does not nest in California. Winter visitor along the coast, eastward to Sierra Nevadas.	Open terrain in plains and foothills where ground squirrels and other prey are available.	Yes
	<i>Buteo swainsoni</i>	Swainson's hawk	ST	Lower Sacramento and San Joaquin Valleys, Klamath Basin and Butte Valley. Highest nesting densities near Davis and Woodland.	Nests in oaks or cottonwoods in or near riparian habitats. Forages in grasslands, irrigated pastures and grain fields.	Yes

	<i>Charadrius montanus</i>	Mountain plover	FPT/CSC/FWS:MN BMC	Winter resident from September through March. Found in the Central Valley from Sutter and Yuba Counties southward	Found on short grasslands and plowed fields. Frequents open plains with low, herbaceous or scattered shrub vegetation	Yes
BIRDS	<i>Coccyzus americanus occidentalis</i>	Western yellow-billed cuckoo	FC/SE/FWS:MNB MC	Nests along the upper Sacramento River, lower Feather River, South Fork of the Kern and Colorado Rivers	Wide, dense riparian forests with a thick understory of willows for nesting; sites with a dominant cottonwood overstory are preferred for foraging	Yes
	<i>Epidonax trailii</i>	Willow flycatcher	SE/FWS:MNBMC	Summers along the western Sierra Nevada, in Trinity, Shasta, Tehama, Butte and Plumas County	Riparian areas and large wet meadows with abundant willows. Usually found in riparian habitats during migration	No
	<i>Epidonax trailii brewsteri</i>	Little willow flycatcher	FSC	West of Sierra Nevada crest	Summer resident in wet or moist meadow and montane riparian habitats 2000 to 8000 feet.	No
	<i>Falco peregrinus anatum</i>	American peregrine falcon	Delisted/SE/Fully protected/	Permanent resident along the north and south coast ranges. Winters in the Central Valley south through the Transverse range	Nests and roosts on protected ledges of high cliffs, usually adjacent to lakes, rivers or marshes that support large prey populations	No
	<i>Grus canadensis tabida</i>	Greater sandhill crane	Fully Protected	Breeds in Siskiyou, Modoc, Lassen, Plumas and Sierra Counties. Winters in the Central Valley south to the Colorado River Indian Reserve.	Summers in open terrain near the shallow lakes or freshwater marshes. Winters in plains and valleys near bodies of fresh water.	Yes
	<i>Haliaeetus leucocephalus</i>	Bald eagle	FT/SE/Fully Protected	Nests in most northern California Counties. Winter range includes the rest of California except deserts and very high altitudes.	In western North America, nests and roosts in coniferous forests within 1.6 km of a lake, reservoir, stream or ocean.	Yes
	<i>Nycticorax nycticorax</i>	Black-crowned night heron	None	Throughout most of California	Marshes and shores, roosts in trees.	Yes
	<i>Plegadis chihi</i>	White-faced ibis (rookery site)	FSC/CSC/FW:MN BMC	Breeds at Honey Lake, near Woodland, Yolo County. Winters along Sac River in Colusa, Glenn, Butte, Sutter and Yolo.	Freshwater marshes with tules, cattails, and rushes. May nest in trees and forage in flooded agricultural fields, especially rice.	Yes
BIRDS	<i>Riparia riparia</i>	Bank swallow	ST	Breeding populations are along the Sacramento River from Tehama County to Sacramento County and along the Feather and Lower American Rivers.	Nests in bluffs or banks, usually adjacent to water, where the soil consists of sand or sandy loam.	Yes
BEETLES	<i>Anthicus sacramento</i>	Sacramento anthicid beetle	FSC	Restricted to a dune area at mouth of Sacramento River,; dunes near Rio Vista, Ord Ferry Bridge,	Sand slip-faces among willows.	No
	<i>Anthicus antiochensis</i>	Antioch Dunes anthicid beetle	FSC	Grand Island and in and around Sandy Beach Park, Sac Co.	Loose sand on sand bars and sand dunes	No
	<i>Cicindela hirticollis abrupta</i>	Sacramento Valley tiger beetle	FSC	Lower Sac. Valley (i.e., Sacramento and lower American river, and Cache Creek)	Found in sandy areas among willows in riverine and riparian habitats	No

	<i>Desmocerus californicus dimorphus</i>	Valley elderberry longhorn beetle	FT	Riparian habitats throughout the Central Valley	Specifically associated with <i>Sambucus</i> sp.	No
FISH	<i>Acipenser medirostris</i>	Green sturgeon	FSC\CSC	Large rivers from San Francisco Bay north	Prefers channel bottoms in river systems	Yes
	<i>Hypomesus transpacificus</i>	Delta smelt	FT\ST	Sacramento/San Joaquin River Estuary, Suisun Bay	In the euryhaline zone, moving to freshwater to spawn	No
	<i>Lampetra ayresi</i>	River lamprey	FSC\CSC	Sacramento/San Joaquin River systems	Small freshwater tributary streams	Yes
	<i>Lampetra tridentata</i>	Pacific lamprey	FSC\CSC	San Francisco Bay, Sacramento/San Joaquin River systems	Breeds in freshwater streams and rivers.	Yes
	<i>Oncorhynchus mykiss</i>	Central Valley steelhead	FT	Sacramento Rivers and tributaries	Cool freshwater streams and rivers, require sand and gravel for spawning	Yes
	<i>Oncorhynchus tshawytscha</i>	Central Valley fall-run Chinook salmon/critical habitat	C\CSC	Southern California north to Alaska.	Migrate with a minimum water depth of 18cm. They spawn in cool, clear, well-oxygenated streams.	Yes
	<i>Oncorhynchus tshawytscha</i>	Sacramento River winter-run chinook salmon	FE\SE	Spawns only in the Sacramento River	Spawns in cold water above the Red Bluff Diversion Dam	No
FISH	<i>Oncorhynchus tshawytscha</i>	Central Valley spring-run chinook salmon	FT\ST	Sacramento and San Joaquin Rivers and their tributaries.	Spawns in deep water and large gravel size. Most spawning and rearing activity take place in the main stream channels. Critical habitat, Central Valley spring-run chinook salmon	Yes
	<i>Pogonichthys macrolepidotus</i>	Sacramento splittail	FT	Central Valley and the Sacramento-San Joaquin estuary	Primarily freshwater and found in the slow-moving sections of rivers and sloughs	Yes
	<i>Spirinchus thaleichthys</i>	Longfin smelt	FSC\CSC	Occur at the mouth of the Klamath River and in the Sacramento-San Joaquin estuary	Occupy mostly the middle or bottom of the water column in the salt or brackish water portions. Spawning takes place in freshwater over sandy-gravel.	No
INVERTEBRATES	<i>Branchinecta conservatio</i>	Conservancy fairy shrimp	FE	Disjunct occurrences in Solano, Tehama, Butte, and Glen Counties	Large, deep vernal pools in annual grasslands	No
	<i>Branchinecta lynchi</i>	Vernal pool fairy shrimp	FT	Central Valley, Central and South Coast Ranges from Tehama County South	Common in vernal pools; also found sandstone rock outcrop pools	No
	<i>Lepidurus packardii</i>	Vernal pool tadpole shrimp	FE	Shasta county south to Merced County	Vernal pools and ephemeral stock ponds	No

	<i>Linderiella occidentalis</i>	California linderiella		Central Valley, Central and South Coast Ranges from Mendocino County to Ventura County	Seasonal pools in unplowed grasslands with old alluvial soils underlain by hardpan or in sandstone depressions	No
Mammals	<i>Corynorhinus</i> (=Plecotus) <i>townsendii townsendii</i>	Townsend's big-eared bat	FSC/CSC/-/-	Coastal regions from Del Norte County south to Santa Barbara Co.	Roosts in caves, tunnels, mines, and dark attics of abandoned buildings; very sensitive to disturbances	No
	<i>Dipodomys californicus eximius</i>	Marysville Heermann's kangaroo rat	FSC/CSC/-/-	Sutter Buttes, Sutter County; could be extinct	Grasslands and sparse, chaparral habitats above the valley floor on slopes with well-drained soils	Yes
	<i>Myotis yumanensis</i>	Yuma myotis bat	FSC/-/-	Common and widespread in California. Range from sea level to 3300m	Closely tied to bodies of water. Open forests and woodlands are optimal habitats	Yes
Reptiles	<i>Clemmys marmorata marmorata</i>	Northwestern pond turtle	FSC/CSC/Protected /-	Oregon border south along the coast to San Francisco Bay, inland through the Sacramento Valley, and the western slope of Sierra Nevada.	Woodlands, grasslands, and open forests; occupies ponds, marshes, rivers, with muddy or rocky bottoms and with cattails, or other aquatic vegetation.	Yes
	<i>Thamnophis gigas</i>	Giant garter snake	FT/ST/Protected/-	Central Valley from Fresno north to the Gridley/Sutter Buttes area	Sloughs, canals, and other small water ways where there is a prey base of small fish and amphibians; requires grassy banks and emergent vegetation for basking and areas of high ground protected from flooding in winter	Yes

**FE:** Federal Endangered **C:** Federal Candidate **FT:** Federally Threatened **FSC:** Federal Species of Concern **FPT:** Federally proposed Threatened **SE:** State-listed as Endangered **ST:** State-listed as Threatened **CSC:** California Special Concern species (This is a DFG term) **Fully Protected:** Cannot be taken without a permit from the Fish and Game Commission **MNBMC:** Migratory Nongame Birds of Management Concern **WBG-** High Priority: imperiled or at risk for imperiled

## BIRDS

Tricolored Blackbird (*Agelaius tricolor*) (Federal Species of Concern, California Species of Special Concern, and Migratory Nongame Bird of Management Concern). The tricolored blackbird is common throughout the Central Valley and it breeds near freshwater, preferably in emergent wetlands. While foraging habitat is widely available throughout the project area, no birds were observed within the project area.

Great Blue Heron (*Ardea herodias*) (California Species of Special Concern). Blue Heron is common throughout California and frequents shallow estuaries, freshwater and saline emergent wetlands, riverine settings, ponds, and less often on rocky marine shores, in croplands, pastures and irrigation ditches.

The roadside ditches in the project area may provide marginal foraging habitat for the Great Blue Heron. Single individuals were observed foraging in the project area during surveys on 12/98, 6/01, 7/01. Nest searches for the heron were conducted 4/99 and 7/01. No heron rookeries were detected in the project area during surveys.

Burrowing Owl (*Athene cunicularia hypugea*) (Federal Species of concern, California Species of Special Concern). The burrowing owl is a year-round resident of the Central Valley. Burrowing owls are found in grassland, prairie, savanna, and open areas near human habitation including golf courses and airports. The agricultural fields in the project area may provide some foraging and nesting habitat for the burrowing owl. No birds were detected in the project area during surveys.

Aleutian Canada Goose (*Branta canadensis leucopareia*) (Delisted species). The Aleutian Canada goose is a widespread migrant common to the Central Valley in the winter. This species breeds primarily outside of California but there are known breeding populations in the central coast counties and the northeastern plateau.

The project area, predominately the southern portion (segment 1), provides winter foraging habitat for this species. This species does not breed in the Central Valley, therefore there is no breeding habitat within the project area.

Ferruginous Hawk (*Buteo regalis*) (Federal Species of Concern, California Species of Special Concern). The Ferruginous Hawk are infrequent migrants to the Central Valley. They inhabit open grasslands, sagebrush flats, desert scrub and open valleys with adjacent woodland.

The project area contains foraging habitat for wintering Ferruginous Hawks. Although the project area contains suitable habitat for this species, breeding habitat would not be impacted.

Swainson's Hawk (*Buteo swainsoni*) (California Threatened Species). This species is a summer migrant to the Central Valley that arrives on its nesting grounds in March. The Swainson's hawk nests in deciduous trees between 6'-70' above ground, but usually 20'-30'. This species nests in a platform built of large sticks, twigs, brambles, grass, and etc., and may re-use nests year to year.

The landscape surrounding the project area provides excellent foraging habitat for the Swainson's hawk. Adults were observed foraging within the project limits during the 1998, 2000 and 2001 field seasons. There is a nesting pair located just outside of the project area on Striplin Road.

There are other locations within the project area, which may support tree stands that are good candidates for nesting. Surveys for nests were conducted in the spring of 1999 and the summers of 2000 and 2001. Findings were limited to the nest on Striplin Road (Figure 3-3a-c).

Mountain Plover (*Charadrius montanus*) (California Species of Special Concern and Federally proposed threatened). This is a species of bird which inhabit shortgrass prairie and shrub-steppe landscapes. The Mountain plover, a shortgrass prairie species, migrates to California and overwinters in equivalent grasslands and shrub. Cultivated fields, alkali flats and other agricultural lands especially after cultivation and plowing best mimic the preferred habitat of this species (Federal Register, Tuesday, Feb 16, 1999. Vol. 64, No. 30).

The southern portion of the project area (Segments 1 and 2) provide ideal habitat for this species. Although there are no reported sightings within the project area, the California Wildlife Habitat Relationships System write-ups and maps state and show Yuba County as wintering range for this species.

Western Yellow-Billed Cuckoo (*Coccyzus americanus occidentalis*) (candidate to be listed under the federal Endangered Species Act and is listed as endangered under the California Endangered Species Act). The cuckoo is an uncommon to rare summer resident of valley, foothill, and desert riparian habitats in scattered locations throughout California.

Greater Sandhill Crane (*Grus canadensis tabida*)(California Threatened/Fully protected species). These species are typically found in wet meadows and fresh emergent wetlands. Greater Sandhill Cranes winter in the Sacramento and San Joaquin valleys south into Kings County. It can be found in the winter in rice and corn stubble fields, flooded rice fields and various fresh emergent wetland habitats.

**Figure 3-3a – Impacts to Swainson’s Hawk and Giant Garter Snake  
Habitat Segment 1**

**Figure 3-3b – Impacts to Swainson’s Hawk and Giant Garter Snake  
Habitat Segment 2**

**Figure 3-3c – Impacts to Swainson’s Hawk and Giant Garter Snake  
Habitat Segment 4**

This species is likely to be in the project area during the winter months. Greater Sandhill Cranes have been seen in rice fields adjacent to the project area during field surveys in January and February of 2001.

Bald Eagle (*Haliaeetus leucocephalus*) (Federal Endangered, California Endangered and California fully protected species). Bald Eagles are likely to be within and/or near the project area during the fall and winter months. These species tend to prefer perching high in large, stoutly limbed trees over foraging territory. They will hunt fish, waterfowl and small mammals. Surveys for the presence of this species were conducted on 4/99 by sight and listening for responses to recorded songs. No Bald Eagles or nests were seen during field surveys.

Black-Crowned Night Heron (*Nycticorax nycticorax*) This bird is a fairly common yearlong resident in lowlands and foothills throughout most of California, and common locally in large nesting colonies. The roadside ditches in the project area may provide marginal foraging habitat for the Black-Crowned Night Heron. Nest searches for the heron were conducted 4/99, summer of 2000 and 2001. No heron rookeries were detected in the project area during surveys.

White-faced ibis (*Plegadis chihi*) (Federal Species of Concern and California Species of Special Concern). This species is common throughout the central valley. The white-faced ibis nests in extensive marsh areas, usually among the tules and sometimes on mounds. This species was not seen in the project area during surveys; however, foraging habitat does exist.

Bank Swallow (*Riparia riparia*) (California Threatened). The bank swallow is a migrant found primarily in riparian and other lowland habitats and 75% of the breeding population in California is concentrated on the banks of Central Valley streams. At the time of the surveys (1998, 2000 and 2001) the banks did not appear to provide the suitable nesting habitat for this species. However, the project area does have foraging habitat.

## **FISH**

Green Sturgeon (*Acipenser medirostris*) (Federal Species of Concern and California Species of Special Concern). Green Sturgeon are located from California north to Alaska and into parts of Russia. The Green Sturgeon migrates and spawns in both Feather and Sacramento Rivers. The project area provides migratory passage to

spawning grounds and may provide spawning habitat. Although data is sparse, young green sturgeons have been found as far north as the Red Bluff diversion dam.

River Lamprey (*Lampetra ayresi*) (Federal Species of Concern and California Species of Special Concern). This anadromous fish is found in coastal streams from San Francisco Bay to Lynn Canal in Alaska. River lamprey spends most of their time in the estuary type environment. It is assumed that the River Lamprey occurs at some point in their life cycle in the Feather River.

Pacific Lamprey (*Lampetra tridentata*) (Federal Species of Concern and California Species of Special Concern). This species has been found in the Cache Slough, Suisun Bay, American River and the Sacramento River up to the Red Bluff Diversion Dam. The Pacific Lamprey is a parasitic anadromous species, which spawns in riffle areas of freshwater streams.

It is assumed that the Pacific Lamprey occurs in the Feather River and its tributaries. Although the project area does not provide spawning habitat, the Feather River may serve as a migratory route.

Central Valley Steelhead (*Oncorhynchus mykiss*) (Federally threatened species). Central Valley Steelhead occur within the lower and upper reaches of the Sacramento River as well as the American, Feather and Yuba Rivers and their tributaries. Sensitive salmonid species likely use the waters of the Feather River and Nelson slough (during high flows) as migration routes to holding and spawning grounds. Hatchlings are known to disperse from spawning grounds into smaller tributaries before beginning the downstream run. Juvenile salmonids leave the non-natal rearing habitat during the spring as water levels drop and water temperatures rise. Individuals could be within the Feather River portion of the project area at any time and in Nelson Slough during the high flow periods of the season.

The remaining drainages including the lower reaches of Coon Creek and Ping Slough, according to NOAA Fisheries and CDFG, do not contain suitable habitat for salmonids. Both drainages are tributary to the Natomas Cross Canal system, and the Natomas Main Canal system, located just southwest of the project area. These canal systems are not equipped with fish screens to prevent salmonids from reaching the drainages in the project area. A future project by the Natomas Mutual Water Company is proposing a project that will involve the removal of diversion dams within the canal system, as well as placing state of the art fish screens for the canal

diversion at the Sacramento River to prevent the straying and entrapment of sensitive fish species within the canal system.

Spring-Run Chinook Salmon/Winter Run Chinook Salmon/Fall-Late Fall Chinook Salmon (*Onorhynchus tshawytscha*) (Federally and State threatened; Federally and State endangered). These species are potentially present in any passable waters tributary to the Sacramento and San Joaquin Rivers. The two waterbodies identified as having potential habitat include The Feather River at all times of the season and Nelson Slough during the high flows of the season.

Outmigrating smolts may pass through the Feather River portion of the project area at any time of the year. During their downstream migration when flows are high, young salmon may use the floodplain habitat in the action area as rearing habitat. Nelson slough contains good riparian cover and rearing habitat but it is limited to the high flow periods of the season and is typically dry during the late summer months.

### **Mammals**

Townsend's Big-eared bat (*Coryorhinus townsendii*) (Federal Species of Concern and California Species of Special Concern). The Townsend's Big-eared bat day roosts in natural or man-made cavity roosts. Habitat attributed to this bat species in the form of open tree cavities, rock overhangs, and abandoned buildings are few and do not show signs of occupancy. The existing Feather River Bridge does not demonstrate signs of bat usage.

Yuma myotis (*Myotis yumanensis*) (Federal Species of Concern). This species forages over open water, as well as roosts in caves, crevices, buildings, and under bridges. This species may occur in abandoned buildings throughout the project area. There were no signs of bat habitation under the Feather River Bridge. There are no caves or rock outcroppings with crevices habitat in project area.

Marysville Heermann's kangaroo rat (*Dipodmys californicus eximus*) (Federal Species of Concern and California Species of Special Concern). This species feeds on seeds of grasses, forbs and shrubs as well as berries and seeds of lupine, burclover and wild oats. This species may occur within the project area.

### **Reptiles**

Western Pond Turtle (*Clemmys marmorata marmorata*) (Federal Species of Concern and California Species of Special Concern). Historically, the western pond turtle had

a relatively continuous distribution from the Columbia River drainage in Washington to northern Baja California. The turtle is currently threatened by impacts to nesting areas by livestock and agriculture and the introduction of exotic predatory species.

Coon Creek, Ping Slough and Nelson Slough, as well as irrigation ditches in the project area provide slack or slow water aquatic habitat that may potentially provide habitat for the western pond turtle. However, the main stem of the Feather River is not likely to provide habitat through most of the year. The backwater area at the south end of the bridge is prime habitat for this species. The sloughs, with the exception of Nelson Slough, and irrigation canals are not likely to provide breeding habitat because they lack the sandy substrate in the adjacent uplands. The Feather River and Nelson Slough contain potential breeding habitat.

Giant Garter Snake (*Thamnophis gigas*) (Federal and State Threatened Species). The present known distribution extends from the vicinity of Gridley, Butte County, to the vicinity of Burrell, Fresno County.

The giant garter snake prefers streams and sloughs with mud bottoms. It is usually found in areas of freshwater marsh and low gradient streams, although they frequent temporary water such as drainage canals and irrigation ditches.

Ping Slough, Coon Creek and Nelson Slough all provide potential habitat for the Giant Garter Snake. In addition to the mentioned bodies of water there is also potential habitat within roadside ditches which contain water and are hydrologically connected to rice fields and other habitats such as sloughs or the Feather River (Figure 3-3a-c).

### **Sensitive Plant Species**

Brittlescale (*Atriplex depressa*) (1B on the CNPS listing). Brittlescale is an annual herb that blooms from May to October. This plant was not found during field surveys and is unlikely to occur within the project area due to the lack of clay and alkali soils, which are essential for their propagation within the project area.

Rose Mallow (*Hibiscus lasiocarpus*) (CNPS List 2 species). Rose mallow is a perennial herb in the mallow family. This species is found on moist riverbanks and low peat islands in sloughs. The closest recorded occurrence is .32 km (.2 miles) west of the project area. This sighting was in the vicinity of the Sutter Bypass and

Gilsizer Slough (Rarefind, 1997). Botanical surveys conducted between March and June 1999 did not indicate the presence of this plant.

Veiny monardella (*Monardella douglasii ssp. venosa*) (CNPS listing 1B list, Federal Species of Concern). The veiny monardella is an annual herb that is found in heavy clay soils associated with grassland habitat and is primarily in Butte, Sutter and Tuolumne County.

This species was not found during surveys and is unlikely to exist within the project area since the grassland area within the project area is highly inundated with competitive non-native species. While there are some clay soils within the project area, none of the soils are categorized as “heavy clays.” There are no known occurrences of this species within the project area.

Hartweg’s Golden Sunburst (*Psuedobahia bahifolia*) (State and Federal Endangered species, CNPS 1B list). This species is an annual herb, which blooms from March to April. There are fewer than 20 occurrences and none are in or near the project area. The Hartweg’s Golden Sunburst was not found during surveys conducted in 2001. This species is unlikely to occur within the project due to development, agriculture, and overgrazing.

### **3.8.2 Impacts**

Species addressed in this section pertains to those identified in the project surveys as being present or have high probability of occurring in the project area. Survey methods and additional information can be found in the Natural Environmental Study.

Impact criterias define the level of direct and indirect impacts on special-status species. The purpose of establishing impact criteria is to determine when an impact is adverse under NEPA and significant under CEQA.

Impacts on special status species were considered significant if implementation of the proposed project would meet any of the following specific criteria. Would the proposed project cause:

Direct mortality, substantial reduction in local population size, lowered reproductive success, habitat fragmentation or substantial loss of breeding/nesting habitat of:

- Plants and animals qualifying as rare and endangered under CEQA,

- Plants and wildlife that are state or federally listed threatened or endangered species, or proposed for listing
- Plants listed under CNPPA or plants listed under CNPS as considered “rare threatened or endangered in California”.
- Category 1 or 2 candidates for possible future listing under FESA.

Substantial portions of local populations of state and federal wildlife species of special concern?

**Table 3-10 - Summary of Potential Special-Status Species Occurrences within the Project Area**

Scientific Name	Common Name	Legal Status <sup>a</sup>	Potential Project Impacts <sup>b</sup>
<b>BIRDS</b>			
<i>Andrea herodias</i>	Great Blue Heron	CSC	Potential impact
<i>Agelaius tricolor</i>	Tricolored blackbird	FSC, CSC	Potential impact
<i>Branta canadensis</i>	Aleutian Canada goose	Delisted	Potential impact
<i>Buteo regalis</i>	Ferruginous hawk	FSC, CSC	Potential impact
<i>Buteo swainsoni</i>	Swainson’s hawk	ST	Potential impact
<i>Charadrius montanus</i>	Mountain plover	FPT, CSC	Potential impact
<i>Coccyzus americanus occidentalis</i>	Western yellow-billed cuckoo	SE	Potential impact
<i>Haliaeetus leucocephalus</i>	Bald eagle	FT, SE	Potential impact
<i>Grus canadensis tabida</i>	Greater Sandhill Crane	Fully Protected	Potential impact
<i>Plegadis chihi</i>	White-faced ibis	FSC, CSC	Potential impact
<i>Riparia riparia</i>	Bank swallow	ST	Potential impact
<b>REPTILES</b>			
<i>Clemmys marmorata marmorata</i>	Northwestern pond turtle	FSC, CSC	Potential impact
<i>Thamnophis gigas</i>	Giant garter snake	FT, ST	Potential impact
<b>FISH</b>			
<i>Acipenser medirostris</i>	Green sturgeon	FSC, CSC	Potential impact
<i>Lampetra tridentata/Lampetra ayresi</i>	Pacific lamprey/River lamprey	FSC, CSC	Potential impact
<i>Oncorhynchus mykiss</i>	Steelhead	FT	Potential impact
<i>Oncorhynchus tshawytscha</i>	Chinook salmon (winter run), critical habitat	FE, SE	Potential impact
<i>Oncorhynchus tshawytscha</i>	Chinook salmon (fall/late fall run)	C, CSC	Potential impact
<i>Oncorhynchus tshawytscha</i>	Chinook salmon (fall/late fall run), critical habitat	C, CSC	Potential impact
<i>Oncorhynchus tshawytscha</i>	Chinook salmon (spring run)	FT, ST	Potential impact
<b>INSECTS</b>			
<i>Desmocerus californicus dimorphus</i>	Valley elderberry longhorn beetle	FT	Potential impact
<b>MAMMALS</b>			
<i>Dipodomys Californicus eximus</i>	Marysville Heermann’s kangaroo rat	FSC, CSC	Potential impact
<i>Eumops perotis californicus</i>	Greater western mastiff bat	FSC, CSC	Potential impact

Myotis ciliolabrum	Small-footed myotis bat	FSC	Potential impact
Myotis evotis	Long-eared myotis bat	FSC	Potential impact
Myotis thysanodes	Fringed myotis bat	FSC	Potential impact
Myotis volans	Long-legged myotis bat	FSC	Potential impact
Myotis yumanensis	Yuma myotis bat	FSC	Potential impact
Perognathus inoratus	San Joaquin pocket mouse	FSC	Potential impact
Plecotus townsendii	Pacific western big-eared bat	FSC, CSC	Potential impact
<b>PLANTS</b>			
Hibiscus lasiocarpus	Rose Mallow	CNPS 2	Potential impact
Monardella douglassii var. venosa	Veiny monardella	FSC, CNPS 1B	Potential impact
Pseudobahia bahifolia	Hartweg's golden sunburst	FE, SE, CNPS 1B	Potential impact
Atriplex depressa	Brittlescale	CNPS 1B	Potential impact

<sup>a</sup> **Legal Status Codes:**

Federal

FE – Listed as Endangered under the Federal Endangered Species Act.

FPE-Proposed as Endangered under the Federal Endangered Species Act.

FT-Listed as Threatened under the Federal Endangered Species Act.

FPT-Proposed as Threatened under the Federal Endangered Species Act.

C-Candidate Taxa that are candidates which may become a proposed species.

FSC-Taxa that may be endangered or threatened, however, there is not enough biological information that has been gathered to support listing at this time.

State

SE-Listed as Endangered under the California Endangered Species Act.

Fully Protected-Cannot be taken without a permit from the Fish and Game Commission.

ST-Listed as Threatened under the California Endangered Species Act.

CSC-State species of special concern.

CNPS Inventory Status

List 1B: Plants that are rare, threatened or endangered in California and elsewhere.

List 2: Plants that are rare, threatened or endangered in California, but more common elsewhere.

<sup>b</sup> **Potential Project Impact:**

Potential Impact-Habitat was identified in the study area that could be utilized by the species, but no actual presence of any individuals was found.

Impact-Species was found within the study area during the surveys and may be affected by the proposed project.

### 3.8.2.1 Impact Discussion

#### Tricolored Blackbird (*Agelaius tricolor*)

Although foraging habitat is widely available throughout the project area, the sloughs and ditches within the project area do not support the dense emergent wetland vegetation required by the tricolored blackbird for nesting. While foraging habitat does occur within the project area, impacts would be temporary within the project vicinity. All alternatives have the same potential impacts.

#### **Level of Impact:**

- Less than adverse impact.
- This impact is considered less than significant under CEQA.

Great Blue Heron (*Ardea herodias*):

The roadside ditches in the project area may provide marginal foraging habitat for the Great Blue Heron. The emergent wetland adjacent to the Feather River provides optimum habitat both for nesting and foraging. Single individuals were observed foraging in the project area during surveys on 12/98, 6/01, and 7/01. Nest searches for the heron were conducted 4/99 and 7/01. No heron rookeries were detected in the project area during surveys. The project may adversely affect the Great Blue Heron if a rookery develops within the project area.

**Level of Impact:**

- Potentially adverse impact.
- This impact is considered significant under CEQA.

Burrowing Owl (*Athene cunicularia hypugea*)

The agricultural fields in the project area may provide foraging and nesting habitat for the burrowing owl. While foraging and nesting habitat may be present in the project area, agricultural practices such as tilling and flooding during the breeding period may impede nesting. No individuals were detected during the survey season. Some of the fallow areas, which change annually, may be able to support burrowing habitat for the owl. No owls were detected during surveys on 4/99 or during the 2001 survey season. The project may adversely affect this species if found breeding in the area.

**Level of Impact:**

- Potentially adverse impact.
- This impact is considered potentially significant under CEQA.

Aleutian Canada Goose (*Branta canadensis leucopareia*)

Implementation of the proposed project would result in the conversion of rice fields currently used by this species and other migratory waterfowl. Species use of the project area is limited to the winter months when construction is not occurring. Therefore, the impacts upon the species are limited to habitat loss. This impact is associated predominantly within the southern portion of the project area. Impacts to foraging habitat would be similar for all build alternatives. This species does not

breed in the Central Valley and is not found within the area during the proposed construction season.

**Level of Impact:**

- Less than adverse impact.
- This impact is considered less than significant under CEQA.

Ferruginous Hawk (*Buteo regalis*)

The implementation of the proposed project may result in the temporary loss of foraging habitat; however, this species breeds outside of California, so nesting habitat will not be affected. This species utilizes the same foraging habitat as the Swainson's Hawk, which is present within and near the project area. This species is typically found in the Central Valley Region during the winter months. Construction will occur from late spring to early fall; therefore, not occurring when the species is present.

**Level of Impact:**

- Less than adverse impact.
- This impact is considered less than significant under CEQA.

Swainson's Hawk (*Buteo swainsoni*)

The landscape within and surrounding the project area provides excellent foraging habitat for the Swainson's hawk, particularly Segments 1 and 2 (southern end of the project area) where agriculture is not dominated by orchards. Presence of adults was confirmed during field surveys. There is one active nest site approximately 10 meters outside of the project area. Impacts vary by alternatives. Alternative 2 has the most impacts with the potential take of 62 ha (152 ac). Alternatives 1 and 3 take 49 ha (120 ac) and 51 ha (126 ac), respectively. Conservation guidelines suggest that any loss of foraging habitat within 16 km (10mi) radius of an active nest would require mitigation (CDFG, 1994).

**Level of Impact:**

- This impact is considered significant under CEQA.

Mountain Plover (*Charadrius montanus*)

The Mountain plover is unlikely to occur in the northern half of the project area where the agriculture land use is primarily orchards. The southern half of the project, (Segments 1 and 2), provides suitable habitat for this species. Impacts are similar in all the build alternatives. Although there are no reported sightings within the project area, the California Wildlife Habitat Relationships System write-ups and maps show Yuba County as wintering range for this species. This species is typically found in the Central Valley Region during the winter months. Construction will occur from late spring to early fall; therefore, not occurring when the species is present.

**Level of Impact:**

- Less than adverse impact.
- This impact is considered less than significant under CEQA.

Western Yellow-billed Cuckoo (*Coccyzus americanus occidentalis*)

Implementation of this proposed project would result in possible impacts to Western Yellow-billed Cuckoo foraging habitat. There are no known nests within the project area; however, this species may forage within Nelson Slough or the backwater of the Feather River (present at the south end of the bridge). Impacts are similar on all the build alternatives.

**Level of Impact:**

- Potentially adverse impact.
- This impact is considered potentially significant under CEQA.

Greater Sandhill Crane (*Grus canadensis tabida*)

The implementation of the proposed project may result in the temporary loss of foraging habitat. Impacts to foraging habitat would be similar in all build alternatives. This species is present in the vicinity of the project area during the winter months and has been seen within the project area during the winter. Construction will occur from late spring to early fall; therefore, not occurring when the species is present.

**Level of Impact:**

- Less than adverse impact.
- This impact is considered less than significant under CEQA.

Bald Eagle (*Haliaeetus leucocephalus*)

Segments 1 and 4 (including all three alternatives) do not provide suitable breeding or typical foraging habitat for this species. Segment 2, the river may provide incidental foraging but is not likely a prime source for foraging. Although there are large snags that could provide nesting and perching habitat for the Bald Eagle, the project area does not contain prime breeding habitat. The project will not be removing potential nesting trees.

**Level of Impact:**

- The project may affect but is not likely to adversely affect bald eagle.
- The project is expected to result in a less than significant impact for Segments 1 and 4. Under the existing conditions the project is not expected to result in a significant impact to this species.

Black-crowned Night Heron (*Nycticorax nycticorax*)

The implementation of the proposed project may result in the temporary loss of foraging habitat and breeding habitat. Impacts to habitat would be similar in all build alternatives. Work in the riparian habitat may affect individuals nesting within the area.

**Level of Impact:**

- This impact is considered potentially significant under CEQA.

White-faced Ibis (*Plegadis chihi*)

The implementation of this proposed project may result in the loss of foraging habitat. Foraging may occur within the Feather River area, the sloughs rice fields and

irrigation ditches. There are no extensive tule marshes within the project area so it is unlikely that breeding habitat would be impacted.

**Level of Impact:**

- This impact is considered potentially significant under CEQA.

Bank swallow (*Riparia riparia*)

The implementation of this proposed project would result in temporary loss of foraging habitat. Riverine environment (such as degraded riverbanks) within the project limits do not appear to provide the habitat suitable for this species.

**Level of Impact:**

- Less than adverse impact.
- This impact is considered less than significant under CEQA.

Green Sturgeon (*Acipenser medirostris*)

Implementation of the proposed project may directly impact green sturgeon. The loss of green sturgeon is not expected to substantially reduce the local population. Cofferdam construction, pile driving and temporary structures in the Feather River may temporarily disrupt the movement of this species and its habitat. Take of habitat will be limited to the placement of piers (0.2 ha/0.5 ac) for the new bridge, this habitat loss is not a substantial percentage of the total amount of habitat available to this green sturgeon. Impacts are similar in all build alternatives.

**Level of Impact:**

- The project is not likely to adversely affect this species.
- This impact is considered less than significant under CEQA.

Central Valley Steelhead (*Oncorhynchus mykiss*) and Chinook Salmon (*Oncorhynchus tshawytscha*)

Implementation of the proposed project would potentially impact listed salmonids. While these riverine environments do not have adequate spawning habitat, they may

provide “non-natal rearing habitat” for these sensitive species particularly during high flows. Impacts are similar in all build alternatives. This species could be adversely impacted by implementation of this project, primarily during the installation and dewatering of the cofferdams during the construction of Segment 2. There will be loss of 0.11 ha(0.277 ac) of instream habitat. Habitat has only been identified at the Feather River and Nelson Slough meaning that impacts to the species are limited to construction of Segment 2.

**Level of Impact:**

- Adverse impact.
- This impact is considered significant under CEQA.

Essential Fish Habitat for Fall-run Chinook salmon

NOAA Fisheries has identified the Feather River and Nelson Slough as EFH for fall-run Chinook salmon. The project may adversely affect EFH, however the impacts will be minimized through water quality measures, BMPs and habitat restoration within the project area or adjacent to the project area.

River Lamprey (*Lampetra ayresi*) and Pacific Lamprey (*Lampetra tridentata*)

The implementation of the proposed project may temporarily impact this species. The loss of individuals is not expected to substantially reduce the local population. Although it is unlikely that the project area provides spawning habitat, the area may serve as a migration corridor. Since work will occur in the river when the water is at its lowest level, it is unlikely that work will occur during the spawning period of this species. Impacts would be similar in all the build alternatives.

**Level of Impact:**

- The project may adversely affect this species
- This impact is considered potentially significant under CEQA.

Townsend’s Big-eared bat (*Corynorhinus townsendii*) and Yuma myotis (*Myotis yumanensis*)

Implementation of the proposed project may result in the possible loss of habitat for the Townsend's Big-eared Bat. Abandoned buildings slated for removal or other buildings with eaves and attics may provide habitat for bats. Further surveys of buildings slated for removal will need to be conducted after an alternative has been selected.

**Level of Impact:**

- Potentially adverse impact.
- This impact is considered potentially significant under CEQA.

Marysville Heermann's Kangaroo rat (*Dipodomys californicus eximus*)

The implementation of this proposed project may impact this species. Although this species was not found during surveys, several predators were observed, therefore leading to the belief that there is suitable habitat for this species and similar species. The project is not expected to substantially reduce the local population. Impacts will be similar in all the build alternatives.

**Level of Impact:**

- The project is not likely to adversely affect this species
- This impact is considered less than significant under CEQA.

Western Pond Turtle (*Clemmys marmorata marmorata*)

Implementation of the proposed project may result in the loss of a small quantity of habitat for turtles. This loss will be a result of the placement of new bridge piers within and adjacent to the Feather River. The Feather River and Nelson Slough contain potential breeding habitat that may be temporarily impacted during construction. The two areas are surrounded by sandy upland habitat, described under typical breeding habitat for this species. Construction activities may result in the disturbance and relocation of adult turtles and possible damage to nests within the work area.

**Level of Impact:**

- Adverse impact.

- This impact is considered significant under CEQA.

### Giant Garter Snake (*Thamnophis gigas*)

Ping Slough, Coon Creek and Nelson Slough all provide potential habitat for the Giant Garter Snake. The backwater area at the south end of the bridge may be suitable habitat for this species. In addition to the mentioned bodies of water there is also potential habitat within roadside ditches that contain water and are adjacent to rice fields or hydrologically connected to other habitats like the sloughs or the river. Habitat includes the aquatic habitat as well as upland habitat within 200 feet of the aquatic area. The project may adversely impact this species including take of habitat and mortality to individuals. Following consultation with USFWS regarding the effects of the proposed project on GGS it was determined that Alternative 3, the selected alternative, will have the following adverse effects on GGS habitat:

**Table 3-11- Giant Garter Snake Impacts**

SPECIES/ HABITAT	TYPE OF IMPACT	PRE-CONSTRUCTION DRILLING HECTARES (AC)	SEGMENT 1 HECTARES (AC)	SEGMENT 2 HECTARES (AC)	SEGMENT 4 HECTARES (AC)
Giant Garter Snake <i>Aquatic</i> Habitat	<i>Temporary</i> Permanent	0(0)* 0(0)	0.180 (0.072) 0.146 (0.059)	0 (0) 0.227(0.686)	0 (0) 0.18(0.436)
Giant Garter Snake <i>Upland</i> Habitat	<i>Temporary</i> Permanent	21.92(54.15) 0(0)	9.13(22.551) 1.93(4.759)	0 (0) 24.40(60.30)	0 (0) 5.89(14.56)

*\*There will be temporary disturbance to this species as a result of the drilling activity; but no take of habitat.*

Impacts on the giant garter snake may include potential mortality and temporary disturbance of habitat as a result of construction activities related to the roadway widening and the construction of the Feather River new bridge. Due to the extended length of time that construction will be occurring within the Feather River Wildlife Area, habitat take may be considered substantial and may need to be mitigated at a greater level than those of temporary effects.

### **Level of Impact:**

- Adverse impact.

- This impact is considered significant under CEQA.

### 3.8.3 Mitigation

#### **Federal Candidate Species/ Federal Species of Concern, State Special Concern Species**

Tricolored Blackbird (*Agelaius tricolor*), Black-crowned Night Heron (*Nycticorax nycticorax*), White-faced Ibis (*Plegadis chihi*), Great Blue Heron (*Ardea herodias*), Burrowing Owl (*Athene cunicularia hypugae*)

To reduce the potential impact to nesting birds, surveys will be conducted to establish presence. If active nests are found, nest removal will be limited to outside the breeding period. Tree removal will be limited to a period following fledging of chicks, which occurs between late July and early August. The breeding window on average is between early February 1 to July 15, which complies with the Migratory Bird Treaty Act. Habitat removal will be limited to only what is necessary to construct the project and as much vegetation as possible will be protected with ESAs.

#### **Level of Impact With Implementation of Avoidance, Minimization and Mitigation Measures:**

- Less than adverse impact.
- This impact is considered less than significant under CEQA.

#### **Federal Species of Concern, State Threatened or State Endangered - No Breeding Habitat Present**

Western Yellow-billed Cuckoo (*Coccyzus americanus occidentalis*).

There is suitable habitat within the vicinity of the project area, however it is expected that the habitat within the project area is used for foraging. Foraging habitat, near the Feather River bridge would be temporarily unavailable during construction. To reduce the potential impact to nesting birds, surveys will be conducted to establish presence. If active nests are found, nest removal will be limited to outside the breeding period. Tree removal will be limited to a period following fledging of chicks, which occurs between late July and early August. The breeding window on

average is between early February 1 to July 15, which complies with the Migratory Bird Treaty Act. Habitat removal will be limited to only what is necessary to construct the project and as much vegetation as possible will be protected with ESAs.

**Level of Impact With Implementation of Avoidance, Minimization and Mitigation Measures:**

- Less than adverse impact.
- This impact is considered less than significant under CEQA.

**Wintering Migratory Birds**

Aleutian Canada Goose (*Branta canadensis leucopareia*), Ferruginous Hawk (*Buteo regalis*), Greater Sandhill Crane (*Grus canadensis tabida*), Mountain Plover (*Charadrius montanus*).

Implementation of the proposed project would result in the permanent conversion of approximately 43 ha (106 ac) of agricultural rice fields and other habitats considered part of the Pacific flyway which is currently used by migratory waterfowl. The table below summarizes the impacts.

Resource	Alternative 1 ha (ac)	Alternative 2 ha (ac)	Alternative 3 ha (ac)
Pacific Flyway	66 (164)	83 (206)	43 (106)

The following measures will be implemented to reduce the impact to less-than significant levels:

- Implement mitigation measures associated with Giant Garter snake (discussed later in the mitigation section) and Swainson's hawk
- Prepare a revegetation plan using native plant species

**Level of Impact With Implementation of Avoidance, Minimization and Mitigation Measures:**

- Less than adverse impact.
- This impact is considered less than significant under CEQA.

Swainson's Hawk (*Buteo swainsoni*)

Implementation of the proposed project is expected to result in the loss of 18ha (45 ac) of agricultural fields including fallow rice, row crops and pastureland which are considered suitable habitat. The following tables (Tables 3-11 a-b) summarize the impact to Swainson's Hawk habitat by alternative and is broken down by segment for the preferred alternative.

**Table 3-11a Swainson's Hawk Impact by alternative**

Alternative	Alternative 1 ha (ac)	Alternative 2 ha (ac)	Alternative 3 ha (ac)
Swainson's Hawk Habitat	49 (120)	62 (152)	18 (45)

**Table 3-11b Alternative 3 – Swainson's Hawk Impact by Segment**

SEGMENT	SEGMENT 1	SEGMENT 2	SEGMENT 4
Swainson's hawk permanent habitat removal	7.7 ha (19 ac)	8.9ha (22 ac)	1.76 (4 ac)
Swainson's hawk temporary habitat removal	14.5ha (36 ac)	1.76 ha (4 ac)	1.5 ha (3.6 ac)

Coordination is being initiated with the Department of Fish and Game to determine the effects of the proposed project on this species. The following measures are included as methods of avoidance and minimization:

- Surveys will continue after the selection of an alternative to determine if there are new nests or if the habitat has been modified in a manner that would change the impacts of the project
- Construction activity will be avoided within .40 km (.25 miles) of any known active nests between March 1 and August 15 unless the chicks fledge earlier then August 15. If construction cannot be avoided, then the Department of Fish and Game will be contacted for further direction.
- Loss of potential foraging habitat (any habitat, which occurs within 16.1 km (10 miles) of an active nest,) will be mitigated at a 1:1 ratio unless otherwise specified during consultation. A mitigation bank may be used for restoration credit as long as it has the following minimum criteria outlined in the Mitigation Guidelines for Swainson's Hawk in the Central Valley of California.

**Level of Impact With Implementation of Avoidance, Minimization and Mitigation Measures:**

- Under the current scope and existing conditions of the project area, this impact is considered less than significant under CEQA.

Green Sturgeon (*Acipenser medirostris*), Pacific Lamprey (*Lampetra tridentata*), River Lamprey (*Lampetra ayresi*)

The following protective measures will be utilized to avoid or reduce impacts to these species

- Work windows prescribed for listed salmonids will minimize impacts to these species.
- Water quality measures as outlined in the water quality section will be implemented.
- A fish salvage plan, generally requested for the Biological Assessment (For USFWS) will also help protect and minimize impacts to the Green Sturgeon, Pacific Lamprey and River Lamprey.

**Level of Impact With Implementation of Avoidance, Minimization and Mitigation Measures:**

- Less than adverse impact.
- This impact is considered less than significant under CEQA.

Central Valley Steelhead (*Oncorhynchus mykiss*), Chinook Salmon (*Oncorhynchus tshawytscha*),

Additional mitigation measures have been outlined in the Biological Opinion and are summarized below.

NOAA Fisheries believes the following reasonable and prudent measures are necessary and appropriate to avoid or minimize take of Central Valley spring-run Chinook salmon or Central Valley steelhead:

Measures shall be taken to avoid or minimize injury to Central Valley spring-run Chinook salmon or Central Valley steelhead during bridge construction.

Measures shall be taken to avoid or minimize impacts to aquatic habitat during bridge construction, culvert replacement, and continued use of the highway.

### **Terms and Conditions**

FHWA and Caltrans are responsible for compliance with the following non-discretionary terms and conditions that implement the reasonable and prudent measures described above:

Measures shall be taken to avoid or minimize injury to Central Valley spring-run Chinook salmon and Central Valley steelhead during bridge construction.

A fish salvage plan shall be written by Caltrans and approved by NOAA Fisheries prior to bridge construction. The plan shall be coordinated with a biologist from the NOAA Fisheries, Sacramento Area Office, before it is undertaken, and must be implemented by a qualified fishery biologist using approved methodology. If listed fish are found within the area confined by the cofferdam, prior to dewatering, the fishery biologist shall use one or more of the following NOAA Fisheries-approved gears to capture the fish: dip net, seine, throw net, minnow trap, or hand. The biologist shall note the number and condition of individuals and the date and time of collection and relocation, and submit this information to NOAA Fisheries, Sacramento Area Office. Any capture and relocation, mortality, or other incidental take of Chinook salmon or steelhead must be reported within 48 hours to NOAA Fisheries by telephone (916) 930-3600, or fax (916) 930-3629. No incidental take of Central Valley spring-run Chinook salmon is expected or authorized; therefore, if Chinook salmon are taken, NOAA Fisheries will review the activities resulting in take to determine if additional protective measures are required.

Pile driving shall be conducted only during daylight hours to avoid crepuscular and nocturnal migration periods of Chinook salmon and steelhead.

Underwater sound levels associated with pile driving shall be monitored to ensure sound levels do not exceed 150 dB at a distance of 10 meters from the pile. If sound levels do exceed this threshold, pile driving must stop and NOAA Fisheries must be notified within 48 hours by telephone at (916) 930-3600, or by fax at (916) 930-3629. Before pile driving may continue, additional protective measures will be determined by NOAA Fisheries and Caltrans; these measures may include monitoring to determine the presence or absence of salmonids in the area, and changing the pile driving intensity or duration.

Measures shall be taken to avoid or minimize impacts to aquatic habitat during bridge construction, culvert replacement, and continued use of the highway.

FHWA and Caltrans shall ensure that BMPs are employed during construction to avoid and minimize disturbance to the river banks and channel to the maximum extent possible including, but not limited to, the BMPs described in Appendix F of the biological assessment and in a conceptual SWPPP.

The final bridge design shall be provided for NOAA Fisheries' review and approval and shall include specifications regarding areas where riparian vegetation will be removed and replanted, chemical treatment and storage location of construction materials, identification and uses of staging areas, type and source of construction materials to be placed in the stream channel, types and timing of activities to occur directly in the channel and on the banks, and details of the clean-up process and removal of materials from the site. NOAA Fisheries must approve of final design and specifications at least 90 days prior to constructions.

Removal of riparian vegetation shall be avoided as much as possible, and replacement shall occur at a 3:1 ratio on-site or within close proximity on the Feather River. When the riparian restoration plan is completed a copy shall be sent to NOAA Fisheries at the following address:

Supervisor, Protected Resources Division  
National Marine Fisheries Service  
Sacramento Area Office  
650 Capitol Mall, Suite 8-300  
Sacramento, CA 95814

The bridge and adjacent highway design shall not allow stormwater from any road or bridge surface to be directly discharged to any drainage during construction and in perpetuity.

Stream channel disturbance shall be kept to a minimum, and no extraneous construction material shall be left in the channel. If bridge footings are to be protected by rock, the channel bottom elevation must not be elevated above the natural channel bottom. No fill material, including concrete, beyond that identified in the project description, shall be allowed to enter any waters of the U.S. In-channel construction materials must be non-toxic to aquatic life.

Water pumped from within the confines of cofferdams which may be turbid shall not be allowed to re-enter the stream channel unless sediment has settled out, resulting in no increase in turbidity in any water of the U.S. Water that contact wet concrete and has a pH greater than 9 must be disposed of outside the stream channel and away from the riparian zone or any wetland area.

During construction, all equipment refueling and maintenance shall occur outside the channel and riparian area, except for the drill rig or other stationary equipment. To minimize the potential for fluid leaks during operation, refueling, or maintenance, spill control absorbent material shall be placed under all stationary equipment. Any spill of hazardous material must be reported to NOAA Fisheries within 48 hours by telephone at (916) 930-3600, or by fax at (916) 930-3629.

**Level of Impact With Implementation of Avoidance, Minimization and Mitigation Measures:**

Even with mitigation, impacts on fish migratory patterns and habitat quality would be adverse affected.

- Potentially adverse impact
- This impact is considered less than significant under CEQA.

Townsend's Big-eared bat (*Coryorhinus townsendii*)

Yuma myotis (*Myotis yumanensis*)

Any buildings that will be removed for construction of this project will be surveyed. If there are any signs that bats may use the building it will be further surveyed to determine if it is a maternal colony roost. If a maternal colony is present then one of two things will occur: 1) either the building will be removed following breeding season and prior to the start of the next or 2) exclusionary measures will be implemented so that the building may be removed during the breeding season without individuals being present.

**Level of Impact With Implementation of Avoidance, Minimization and Mitigation Measures:**

- Less than adverse impact.
- This impact is considered less than significant under CEQA.

Marysville Heermann's Kangaroo Rat (*Dipodmys californicus eximus*)

No mitigation measures are outlined for this species. This is not a listed species and literature reviews and phone conversations yielded no information about possible minimization measures. It is expected that mitigation for Swainson's Hawks habitat will also provide habitat for this species.

**Level of Impact With Implementation of Avoidance, Minimization and Mitigation Measures:**

- Less than adverse impact.
- This impact is considered less than significant under CEQA.

Western Pond Turtle (*Clemmys marmorata marmorata*)

To reduce the potential impact on pond turtles, a qualified biologist on site would conduct a pre-construction survey at the start of construction in areas outlined as habitat (Coon Creek, Nelson Slough, Ping Slough, the backwater area of the Feather River and the various irrigation ditches as well as the upland habitat adjacent to these areas). These surveys will be continuous throughout construction as work begins at each of the identified locations. If a turtle is found in the project area, the biologist will try to passively move the turtle out of the area by creating disturbance in the water. If a turtle becomes trapped during any work, the biologist will relocate the turtle to a downstream location. Water quality measures (required in general and for other species) will minimize the long-term impacts to this species and the establishment of ESAs will keep equipment in a limited work area which will minimize the long-term impacts to this species.

**Level of Impact With Implementation of Avoidance, Minimization and Mitigation Measures:**

- Less than adverse impact.
- This impact is considered less than significant under CEQA.

Giant Garter Snake (*Thamnophis gigas*)

1. Both upland and aquatic habitat including rice fields and habitat lost at irrigation canals and sloughs will be compensated for at a ratio of 1:1 conservation ratios for temporary effects and 3:1 for permanent effects.

2. Construction activities in giant garter snake habitat will be limited to May 1 through October 1.
3. The biologist/environmental monitor will conduct a survey for giant garter snake within 24 hours of the start of construction in identified habitat. No giant garter snake can be handled without obtaining prior approval from the Service. If a snake becomes trapped during construction, a USFWS pre-approved biologist will remove the snake to a downstream location. The USFWS will be notified of the presence of the snake within 24 hours.
4. The project shall be re-inspected whenever a lapse in construction activity of 2 weeks or greater has occurred.
5. Any dewatered habitat must remain dry for at least 15 days after April 15 and prior to excavating and filling.
6. All construction personnel shall participate in a USFWS-approved worker environmental program to learn about the species, its habitat and the relevant laws.
7. Movement of heavy equipment to and from the project site shall be restricted to established roadways or areas surveyed by the guidelines above and after May 1.
8. Following construction, areas of temporary disturbance shall be returned to their pre-project conditions; Revegetation will be with native species as noted in the conservation measures.

**Level of Impact With Implementation of Avoidance, Minimization and Mitigation Measures:**

- Less than adverse impact.
- This impact is considered less than significant under CEQA.

### **3.9 Floodplains**

Executive Order 11988 for Floodplain Management directs federal agencies to refrain from conducting, supporting, or allowing an action in a floodplain unless it is the only practicable alternative. The FHWA requirements for compliance are outlined in 23 CFR 650 Subpart A. An encroachment into a floodplain is defined as “as action within the limits of the 100-year floodplain,” with the 100-year floodplain being

defined as “the area subject to flooding by the flood or tide which has a one percent chance of being exceeded in any given year.” The National Flood Insurance Program (NFIP) produces maps, which identify 100-year flood areas, based on local hydrology, topology, precipitation, flood protection measures and other scientific data. This program is administered by the work for Federal Emergency Management Agency (FEMA).

### **3.9.1 Affected Environment**

The majority of the project, with the exception of the crossing of the Feather River, is located in Zone X “Areas Protected by Levees From 100 year Flood” (Figure 3-4). Therefore, with the exception of the Feather River crossing, none of the proposed work will encroach upon an established base floodplain. However, FEMA based floodplains are present where SR99 crosses the Feather River (Figure 3-4). This is depicted on Flood Insurance Rate Maps (FIRMs) for Sutter County (Community Panel numbers 060394-0150B, 060394-0200B, 060394-0250D, 060394-0255B).

## Figure 3-4 - Floodplains

### 3.9.2 Impacts

The following criterias were used to evaluate if impacts resulting to floodplain conditions in the project area would be adverse under NEPA and significant under CEQA. Would the proposed project:

- Substantially alter the existing drainage pattern of the site or area or substantially increase the rate or amount of surface runoff in a manner that would result in flooding on or offsite?
- Create or contribute runoff water that would exceed the capacity of existing or planned stormwater drainage system?
- Place within a 100-year flood hazard areas structures that would impede or redirect flood flows?
- Expose people or structures to a substantial risk of property loss, injury or death involving flooding?
- Interrupt or terminate a transportation facility, which is needed for emergency vehicles or provides a community's only evacuation route?

#### 3.9.2.1 Impact Discussion

A new bridge would be constructed east and parallel to the existing Feather River Bridge on SR 99 to accommodate northbound traffic. According to the Caltrans Floodplain Hydraulic Study dated 8/28/2001, this construction would constitute a transverse encroachment into the 100-year floodplain at the proposed site of the new bridge. The impact would be similar for all build alternatives. Temporary encroachment would consist of falsework and a temporary platform to accommodate bridge construction. Permanent encroachments would occur where new piers are placed for the Feather River Bridge. In compliance with 23 CFR 650.111, the following information is offered regarding these encroachments:

- The risks associated with this action are low. There are no risks of a flood overtopping the roadway and/or properties within this encroachment.
- Impacts on natural and beneficial floodplain values would consist of temporary loss of riparian vegetation due to excavation for piers and abutments.
- The proposed project would not support incompatible floodplain development.
- The proposed action would not constitute a significant encroachment as defined in 23 CFR 650.105.

- Measures to minimize floodplain impacts would consist of designing the new piers for minimum head loss and placing in line with the piers of the existing bridge. This would minimize the effect on the base flood water surface elevation at the encroachment location.
- Measures to restore and preserve the natural and beneficial floodplain values are not deemed necessary, since the riparian vegetation would naturally recolonize the impacted areas after the removal of the falsework and platform.

### **Build Alternatives**

Level of Impact:

- Less than Adverse
- This impact is considered less than significant under CEQA.

### **No-Build Alternative**

Level of Impact:

- No Impacts.

### **3.9.3 Mitigation**

None is required.

## **3.10 Parks, Recreational Areas, Wildlife and Waterfowl Refuges**

### **3.10.1 Affected Environment**

The SR 99 corridor in Sutter County has been significantly altered over the last 150 years from settlement, agricultural practices and industrialism. In the past, the Central Valley was a vast area of grassland and variable woodland. Riparian corridors were marked with gallery forests of cottonwoods, valley oaks and willow. There are limited areas within the project area that still contain what would be considered natural habitat.

The Feather River State Wildlife Area (Figure 3-5 a-b) lies between the Feather River levees, adjacent to both sides of the Feather River Bridge. This wildlife area is approximately 1020 ha (2,522 ac) in size and is managed by the Department of Fish and Game. The habitat consists of riparian vegetation with valley oaks, willows and cottonwoods. Both Nelson Slough and the Feather River run through this area.

### **3.10.2 Impacts**

The proposed project would utilize 12.1 ha (30 ac) for a temporary construction staging area and access for the new Feather River bridge between the levees. These same 12.1 ha (30 ac) were used previously for staging during the widening of the existing Feather River Bridge. Caltrans is proposing to permanently acquire 0.81 ha (2.0 ac) of land for the actual bridge location.

The following criterias are used to evaluate whether the proposed project would result in an adverse impact on parks, recreation areas, wildlife and water fowl refuges. Would the proposed project:

- Result in the use of any publicly owned land from a park, recreation area, or wildlife and waterfowl refuge, as defined by Section 4(f) of the U.S. Department of Transportation Act of 1966 (23 CFR 771.135).

#### **3.10.2.1 Impact Discussion**

This project would have permanent and temporary impacts on a publicly owned wildlife area. Construction activity constitutes the majority of the temporary impacts. Ground disturbance, placement of bridge piers, presence of large heavy equipment, materials, and personnel would be the prevailing activities found within the Wildlife area during this time period. In the event that the construction of the new bridge would take more than one season, then the construction materials and equipment would be removed in the fall. This is due to the flooding which may occur within the levees.

The Feather River Wildlife Area lies within the confines of the Feather River levees. The existing SR 99 Feather River Bridge passes through the wildlife area. The Programmatic Section 4(f) in Appendix D shows why the area cannot be avoided and discusses compensation alternatives. The permanent acquisition for placement and

future maintenance of the new bridge will be approximately 0.81 ha (2.0 ac). The temporary easement will be 12.1 ha (30 ac) within the confines of the Wildlife Area.

**Figure 3-5a – Feather River Wildlife Area**

**Figure 3-5b – Impacts to Feather River Wildlife Area**

### **3.10.3 Mitigation**

Caltrans is proposing to acquire 0.81 ac (2.0 ac) and temporarily impact 12.1 ha (30 ac) of the Feather River Wildlife Area. Caltrans is prepared to mitigate permanent impacts at a ratio of 2 to 1 and temporary impacts at a ratio of 1.5 to 1.

In accordance with the Section 4(f) consultation, the Department of Fish and Game will be compensated for the acquisition. (See Appendix D for the Programmatic Section 4(f) Evaluation). Mitigation for the permanent and temporary impacts would minimize the impacts to the Wildlife Area.

#### **Build Alternatives**

Level of Impact:

- Less than Adverse.

#### **No-Build Alternatives**

Level of Impact:

- No Impacts.

## **3.11 Land Use, Planning and Growth**

### **3.11.1 Affected Environment**

#### **Sutter County**

Sutter County is situated in north central California in the Sacramento Valley, approximately 40 miles north of Sacramento. State Route (SR) 99, which extends in a north-south direction through the County, defines the principal transportation corridor connecting the County to the region. Sutter County is bound by Yolo and Colusa Counties to the west; Butte County to the north; Yuba and Placer Counties to the east with the Feather River and Bear Rivers forming the eastern boundary; and Sacramento County to the south. According to the Sutter County General Plan the county encompasses 388,358 acres of land of which 376,225 (96.8%) is zoned for agriculture uses.

Yuba City and Live Oak are the only two incorporated cities in the County. Yuba City is the urban development core of the County. There are seven Rural Community Areas designated in the Sutter County General Plan that could provide rural and suburban development. There is a comparative analysis of the relative amount of zoned acreage for the incorporated and rural development communities in Table 3-12.

**Table 3-12 - Incorporated Cities and Rural Communities Zoned Acreage**

<b>Incorporated City</b>	<b>Area ha (acres)</b>	<b>Area km (sq.mi)</b>
Yuba City	2290 (5,658)	22.89 (8.8414)
Live Oak	472 (1,167)	4.74 (1.8234)
<b>Rural Communities</b>		
Sutter	242 (599)	2.43 (.94)
Robbins	122 (302)	1.21 (.47)
Rio Oso	100 (246)	.98 (.38)
Nicolaus	14 (35)	.13 (.05)
Meridian	53 (132)	.52 (.20)
East Nicolas/Trowbridge	101 (249)	1.03 (.40)
<b>Unincorporated Sutter County</b>	<b>153,769 (379,970)</b>	<b>1537.7 (593.71)</b>
<b>Sutter County Total</b>	<b>157,163 (388,358)</b>	<b>1571.6 (606.81)</b>

Source: Sutter County Community Services Department (As of January 1, 1996)

There are two major industrial-commercial zoned areas slated for development in the county: an 1,800 acre Food Processing, Agriculture, and Recreational Combined (FARC) Area Plan located to the west of Yuba City, and a 10,500 acre Industrial/Commercial Reserve (IRC) located in the southerly portion of the county. These developments represent an unusual conversion of agriculturally zoned lands by the County.

Agriculture is the predominant land use in Sutter County with rice, orchards, and livestock grazing as the primary agricultural uses within and adjacent to the project area. The Sutter County General Plan designation for the lands along the project route is Intensive Agriculture. The zoning designation within this area is General Agriculture (A-G) with a minimum farm parcel size of 20 acres, and a minimum homestead size of one-acre (Figure 3-6).

Specific farmland uses in the project area include alfalfa and some grazing land to the south of the Feather River Bridge. There are melons, rice fields, and some orchards to the immediate north of the bridge and beyond and as the soil quality improves further to the north plums (prunes) and other tree crops such as peaches and walnuts are grown.

**Figure 3-6 – Sutter County Landuse Map**

There is a small Rural Development Community (the Nicolas Community) as defined by the County General Plan in close proximity to the project limits that forms the boundary and limit for any intrusion of development into the Agricultural lands of the area. Other regional patterns of land use and growth are expected to follow current established patterns; namely the planned development within the sphere of influence of Yuba City to the west of the city's current boundary and the commercial planned development in the most southerly portion of the County and other planned agricultural support locations.

### 3.11.2 Impacts

#### **Criteria for Determining Significance under CEQA**

The following criteria were used to evaluate the significance of land use impacts resulting from the proposed project. Would the proposed project:

- Create conflict with applicable land use plans, policies, or regulations of an agency with jurisdiction over the project adopted for the purpose avoiding or mitigating an environmental effect.

The proposed project would require varying amounts of new right of way. Alternative 3 would acquire the largest amount at 105.2 ha (260 acres). The other alternatives (1 and 2) would acquire 70.4 ha (174 acres) and 85.8 ha (212 acres) respectively. This acquisition would change the land use from the current intensive agriculture to highway use.

The Sutter County General Plan has seven goals in place to “preserve the high quality agricultural land for agricultural purposes.” The policies are designed to protect the County's agricultural lands. The goals are contained in the Agricultural Resources section of the General Plan. It is not expected that any of the proposed alternatives would conflict with any of these policies.

There are six properties zoned commercial and residential. These properties that would be converted to highway use are not considered to amount to major changes in land use. Alternative 1 is the worst case scenario with four full acquisitions of commercial/industrial locations and two full acquisitions of residences.

These changes are not expected to alter current land use patterns in the project area. There is a small Rural Development Community (the Nicolaus Community) as

defined by the County General Plan in close proximity to the project limits that forms the boundary and limit for any intrusion of development into the Agricultural lands of the area. Other regional patterns of land use and growth are expected to follow current established patterns; namely the planned development within the sphere of influence of Yuba City to the west of the city's current boundary and the commercial planned development in the most southerly portion of the County and other planned agricultural support locations.

### **3.11.2.1 Consistency with Local Plans and Policies**

The Sutter County General Plan Circulation Element recommends expansion of SR 99 from the SR 70 junction to Bogue Road. The Transportation and Circulation Element also includes statements that recognize the importance of making operational and safety improvements to SR 99 to provide a more efficient and safer transportation system.

#### **No Build**

The No Build Alternative would be inconsistent with the Sutter County General Plan's Transportation and Circulation Element, which recommends expansion of SR 99 from the SR 70 junction to Bogue Road.

#### **Build Alternatives**

Level of Impact:

- This impact is considered less than significant under CEQA.

### **3.11.2.2 Consistency with Regional Transportation Plans**

SR 99 is an economic and agricultural lifeline through northern-central California. In the long term increased congestion on the route in the proposed project area would likely dampen the critical movement of goods and services along the route.

Caltrans' Transportation Concept Report (TCR) for the segment of SR 99 in the Project Area, recommends conversion to a four lane conventional highway with left hand turn pockets and acceleration and deceleration lanes where needed. The SACOG 2000/01 Metropolitan Transportation Improvement Program includes the widening and other improvements on SR 99 from the SR 70 junction to Garden

Highway as well as the portion from Central Avenue to O'Banion in the agencies most recent program list.

### **No Build Alternative**

The No Build Alternative would be inconsistent with Caltrans' TCR for this highway and with the MTP adopted by SACOG.

### **Build Alternatives**

Level of Impact:

- This impact is considered less than significant under CEQA.

#### **3.11.3 Mitigation**

None required.

## **3.12 Farmland/Agricultural Lands**

### **3.12.1 Regulatory Setting**

Farmland Protection Policy Act: The National Environmental Policy Act (NEPA) and the Farmland Protection Policy Act (FPPA, USC 4201-4209); and its regulations, 7 Code of Federal Regulations (CFR, Section VI, Part 658) require the lead, federal agency to coordinate with the Natural Resource Conservation Service (NRCS) to examine the effects of farmland conversion before approving any federal action. The coordination process is set forth in the act and, if adverse effects are found, the agency must consider alternatives to lessen the impacts.

Projects where farmland may be adversely affected require close coordination with the NRCS and the completion of a "Farmland Conversion Impact Rating" (Form AD 1006) or NRCS CPA-106 form, which was developed to address impacts, related to corridor-type projects. The Farmland Conversion Impact Rating form provides a basis for assessing the extent of farmland impacts relative to federally established criteria.

The Williamson Act of 1965 is the State's principal policy for the preservation of agricultural and open-space land. The program encourages landowners to work with local governments in order to protect important farmland and open-space. In doing

so, land is assessed for property taxes consistent with its actual use, rather than the potential value of the land. The main purposes of the Williamson Act are to preserve agricultural land and to encourage open space preservation and efficient urban growth.

The Williamson Act contains notification provisions (Government Code Section 51291(b)) that require state and local agencies to notify the Department of Conservation of the possible acquisition of Williamson Act contracted land.

At the county and local level agencies have general plan policies which emphasize preservation of existing land uses including farming, and cities and counties use adopted urban boundaries and subdivisions to direct development and rule out encroachment of urban use into farmland. The Sutter County General Plan contains specific policies aimed at conserving agricultural lands. The Plan notes that “Non agricultural home sites shall be limited to existing parcels and no new residential subdivisions shall be allowed in the agricultural areas.” The Plan therefore indicates for each southern rural community, a community boundary that serves as the limit of non-agricultural growth. The Nicolaus community, cited in the previous section, is the only such rural community designated in proximity to the proposed project area.

### **3.12.2 Affected Environment**

Agriculture forms the principal land use in the project area. The distribution of farmland soils along the project is presented in Figure 3-7. Farmland in the study area is devoted primarily to rice cultivation, various orchard crops, and pasture.

The Natural Resource Conservation Service (NRCS) classifies soils in eight classes ranging from Class I through Class VIII soils. The NRCS system of classification generally provides an indication of how suitable the soils are for agricultural use. Class I soils that have the fewest limitations for crop production, and the subsequent classes have progressively greater physical /natural limitations for agricultural use. Class I and II soils are generally considered prime farmland due to the excellent properties that these soils possess for higher yielding crop production.

The California Department of Conservation (CDOC) designates and maps farmlands in California based on the NRCS soil surveys and local land use data. Agricultural lands are classified as prime farmlands, farmlands of statewide importance, unique farmlands, farmlands of local importance and grazing lands. Table 3-13 provides a

description of these categories of farmlands and Figure 3-8 presents the distribution of these categories of farmlands within the project area.

**Table 3-13 - Farmland Classification.**

<b>State Category</b>	<b>Formal Description</b>
Prime Farmland	Land of the best combination of physical and chemical features for production of agriculture crops
Farmland of Statewide Importance	Land other than prime, which has a good combination of physical and chemical characteristic to produce crops. In addition, irrigated crop production within the last three years is a requirement to be classified in this category.
Unique Farmland	Lands which do not meet the criteria for Prime or Farmland of Statewide Importance, but are currently used to produce specific high economic value crops.
Farmland of Local Importance	Lands which do not qualify as Prime, Statewide Importance, or Unique farmlands but are currently irrigated, pasture land, or produce non-irrigated crops. This designation is also used for lands which have the potential of being Prime or of Statewide Importance if properly irrigated.

### 3.12.3 Impacts

The proposed project would result in an adverse and/or significant impact to farmlands if the project resulted in any of the following:

- Convert prime agricultural land to nonagricultural use or impair the agricultural productivity of prime agricultural land?
- Conflict with existing zoning for agricultural uses or a Williamson Act contract?

**Figure 3-7 – Sutter County Soils Map**

**Figure 3-8 – Map of Farmlands in Sutter County**

### 3.12.3.1 Impact Discussion

#### **Farmland Impacts**

A Farmland Conversion Impact Rating Form (NRCS-CPA-106) was completed for each alternative (Appendix F). For alternatives 1, 2, and 3 the ratings are 147, 149, and 139 points, respectively, out of a possible 260 points (Table 3-14). According to the Farmland Protection Policy Act (FPPA), project alternative site ratings that receive scores of less than 160 points should be given a minimum level of consideration for protection.

**Table 3-14 - Farmland Site Assessment**

Alternative	Land Converted ha (ac)	Relative Value of Farmland (Storie Index)	Corridor Assessment Criteria	Total Impact Rating
1	70.4 (174)	84	63	147
2	85.8 (212)	84	65	149
3	105.2 (260)	73	66	139

Source: NRCS-CPA-1006 (Farmland Conversion Impact Rating)

In addition, Table 3-15 summarizes the acreage of farmlands affected by the project alternatives. Estimated amounts of farmland conversion because for the new proposed right of way was determined by Caltrans North Region Design in consultation with Caltrans North Region Right of Way Engineering. Alternative 1 would convert approximately 70.4 hectares (ha) (174 acres (ac)) of farmland to new right of way (R/W). The 1997 Census of Agriculture (conducted by the USDA) reported 140,972 ha (348,349 ac) of land in farms in Sutter County. Using that number, the amount of acreage converted by Alternative 1 amounts to .049 percent of the total land in farms in Sutter County. Approximately 53.8 ha (133 ac) of the land thus converted would be prime or unique farmland and approximately 13.8 ha (34 ac) would be farmland of state or local importance. The Farmland Conversion Impact Rating for Alternative 1 is 147 points; completed forms for the proposed project area are provided in Appendix F.

**Table 3-15 - Farmland Conversion by Alternative**

Alternative	Land Converted ha (ac)	Prime & Unique Farmland ha (ac)	Farmland of Statewide Importance ha (ac)	Percentage of Farmland (County)	Relative Value of Farmland (Storie Index)
1	70.4 (174)	54 (133)	14 (34)	**.049	84
2	85.8 (212)	61 (150)	15 (38)	**.060	84
3*	105.2 (260)	51.2 (127)	25.4 (63)	**.074	73

Source: Form AD-1006 (Farmland Conversion Impact Rating)

\*Reflects the larger right of way area.

\*\*Percentages were calculated by using the Census of Agriculture data.

Alternative 2 would convert about 85.8 ha (212 ac) of farmland to Caltrans right of way, which represents about .060 percent of the land in farms in the County. Approximately 60.7 ha (150 ac) of this land would be prime or unique farmland, and about 15.4 ha (38 ac) would be farmland of state or local importance. The Farmland Conversion Rating for Alternative 2 is 149 points.

Alternative 3 would convert 105.2 (260 ac) of farmland to Caltrans right of way. This acreage represents .074 percent of the farmland in the County. Approximately 51.2 ha (127 ac) of this land would be prime or unique farmland, and approximately 25.4 ha (63 ac) would be farmland of state or local importance. The Farmland Conversion Rating for Alternative 3 is 139 points.

The increase in the estimated revised amount of farmland conversion for Alternative 3 (preferred alternative) was deemed unlikely to raise the rating enough to warrant reinitiating of the NRCS consultation process. NRCS agreed with the findings and signed a concurrence letter to reflect their position (Appendix F).

According to the Federal Farmland Protection Policy, sites that receive scores of less than 160 points should be given a minimum level of consideration for protection. The farmland conversion rating scores for Alternative 1, 2, and 3 are less than 160 points.

### **Build Alternatives**

#### **Level of Impact:**

- Less than adverse.
- This impact is considered less than significant under CEQA.

### **No Build Alternative**

#### **Level of Impact:**

- No Impact.

### **California Land Conservation (Williamson Act)**

Sutter County participates in the California Land Conservation (Williamson Act) program. Although, they participate, there are no parcels affected by the proposed project.

### **Build Alternatives**

#### **Level of Impact:**

- No Effect.
- This impact is considered less than significant under CEQA.

### **No Build Alternative**

#### **Level of Impact:**

- No Impacts.

### **3.12.4 Mitigation**

None required.

### **3.13 Community Impacts (Economic and Social), Pedestrian & Bicycle Facilities, Environmental Justice, Relocations**

#### **3.13.1 Affected Environment**

State Route (SR) 99 is one of the most important Federal Aid highways to the economy of the state. It connects urban and rural areas, serving as a major access for products and people, and is also the main farm to market route for most of the agricultural products from the Central Valley. In northern central California, SR99 serves as the major commute freeway for the Yuba City, Chico, and Sacramento urban centers.

Within the project area, there is one small agricultural community with scattered residences along the state highway. The community of Tudor, which historically was a shipping point for local agricultural products, is situated along existing SR99 south of Yuba City. Currently the community is comprised of warehouses, vacant buildings, and some residences along its main road (SR 99). The community of Nicolaus is just east of SR99 and would not be directly affected by the project.

Based on reports from the Sacramento Area Council of Governments (SACOG), Sutter County population in 1999 was 76,700. Most of the population growth in the county took place in Yuba City, which had a net gain of 200 individuals for a 1999 total of 35,050. The population of Live Oak increased by only 25 in 1999, while the unincorporated area of the county increased by 75. In terms of population, Sutter County ranks 38th among California's 58 counties.

The population growth rate of the county has been slowing since 1991 and is expected to reach an average growth rate of 2.3 percent by the year 2010, down from 3.4 percent per year in the early 1990's. Population growth in Sutter County has lagged behind that of the state as a whole. The growth rate in Sutter County for the year 2000 is expected to be 0.5 percent, which is significantly below the anticipated 1.7 percent growth rate for the entire state.

Historical data from the 1990 Census indicates that Sutter County had a poverty rate 2.7 percent above the statewide rate. The Sutter County poverty rate for 1989 was 15.2 percent while the statewide rate was 12.5 percent. The 1995 U.S. Department of Commerce statistics showed Sutter County at about a 16 percent poverty rate,

which was 0.5 percent higher than the California rate. The poverty rate is indicative of the percent of the population for whom poverty status has been determined.

The statewide per capita income rate increased from \$16,409 in 1989 to \$28,163 in 1998 per the Census and Department of Finance (DOF) data (an increase of 71.6 percent). A weaker national and California economy in the late 80's and early 1990's contributed to higher poverty and lower income rates. The Bureau of Labor Statistics indicates median household income of \$33,775 for Sutter County for the year 2000, which is an increase of 24.6 percent over the median household income for the County reported in the 1990 Census.

In 2000, the study area's ethnic population was approximately 64% white, which is very close to the countywide percentage of 68%. Compared to the countywide population, the study area as shown in Table 3-16 was composed of smaller a percentage of African-Americans, Native Americans and a greater percentage of persons of Hispanic and Asian/Pacific Islander origins.

**Table 3-16 - Population in the Project Area.**

Area	Population	White	African - American	Native American	Asian/ Pacific Islander	Hispanic*	Other
Census Tract 510	2,464	63.6%	0.57%	0.89%	13.2%	27.4%	Not known
Census Tract 511 Block groups	74	83.7%	1.4%	4.1%	5.4%	10.8%	-----
<b>Total</b>	<b>2,538</b>	<b>64.2%</b>	<b>0.59%</b>	<b>0.98%</b>	<b>13.09%</b>	<b>26.9%</b>	<b>-----</b>
Sutter County	78,930	67.5%	1.9%	1.6%	11.3%	22.2%	-----

Sources: U.S. Census Bureau, Census 2000; SACOG Regional Census 2000 Data

\* Hispanics may be of any race.

### **Pedestrian and Bicycle Facilities**

Pedestrian facilities within the project limits have a level of service that is often considered typical of a rural area. The population within the frontage area of SR 99 along the proposed project area is a very small rural population. Walking areas are generally on the dirt of paved portion of road beyond the paved shoulder, or "edge of pavement." There is an intersection and crosswalk at SR 99 and O'Banion Road.

Existing bike facilities within Sutter County are very limited. According to the Sutter Bikeway Plan a proposed system includes approximately 395 miles (635 km) of bikeway facilities. Facilities specifically within Sutter county include 8.3 miles (13.4 km) of Class I bikeways, 29.6 miles (47.6 km) of Class II bikeways and 172.2 miles (277.1 km) of Class III bikeways. As described within the plan, a Class I bikeway consists of a completely separated right-of-way for the exclusive use of bicycles and pedestrians with minimal crossflow traffic. A Class II bikeway utilizes bike route signs to identify routes which provide for shared use with pedestrian and motor vehicle traffic. SR 99 was not included as a route for any of the Bikeway Master Plan improvements and is considered a “shared facility.”

### **Federal Uniform Relocation Assistance and Real Properties Acquisition Act**

To ensure adequate relocation of people and businesses and a decent, safe, and sanitary home for displaced residents, the Federal Relocation Assistance and Real Properties Acquisition Act requires the provisions of relocation assistance payments and counseling to eligible displacees. All eligible displacees are entitled to moving expenses. Benefits and services are provided equitably to all relocatees without regard to race, color, religion, age, national origin, and disability as specified under Title VI of the Civil Rights Act of 1964 (Appendix G).

The potential displacement of houses and businesses in the study area is documented in the Draft Relocation Impact Report (DRIR) prepared for the proposed project (California Department of Transportation 2001). No final decisions on relocations would be made based on the DRIR alone. A Final Relocation Impact Report will be prepared after a preferred alternative has been selected. The final report would also establish like requirements for all displaced residents and businesses.

### **Title VI of the Civil Rights Act of 1964 and Environmental Justice**

Executive Order 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations, signed by President Clinton on February 11, 1994, directs federal agencies to take the appropriate and necessary steps to identify and address disproportionately high and adverse effects of federal projects on the health or environment of minority and low-income populations to the greatest extent practicable and permitted by law.

Title VI of the Civil Rights Act of 1964 states that no person in the United States shall, on the grounds of race, color, or national origin, be excluded from participation

in, be denied the benefits of, or be subjected to discrimination under any program or activity receiving Federal financial assistance.

According to Federal Highway Administration (FHWA) publication: *Guidance for "Addressing Environmental Justice in the Environmental Assessment/Impact Statement,"* a minority and/or low income population is defined as: "Any readily identifiable groups or clusters of minority persons and/or persons who are in the project study area. If the population is dispersed and not an identifiable minority or low-income community, then the study area population may be homogeneous."

### **Economic Conditions**

The primary economic base in the area is comprised of agriculture, fruit packing, retail sales, and services. Today the availability of water plus long growing seasons makes lands in Sutter County a prime agricultural region. Over 93 percent of the County's land is classified as "Important Farmland", making it one of the most intensively farmed counties in California.

According to the July 2001 report by the California State University at Sacramento, Sacramento Forecast Project, total taxable sales have grown consistently since 1992. The average annual rate of increase in taxable sales between 1992 and 1998 was 5 percent. The report, sales tax data for the county for the year 2000 indicates a 14 percent annual increase in taxable sales; forecasts for years 2001 and 2002 indicate a slower growth rate of 6.5 percent per year. Table 3-17 shows the taxable transactions in 2000 for Sutter County. As the table indicates, general merchandise stores generate the most taxable sales in the County.

**Table 3-17 - 2000 Taxable Transactions in Sutter County**

Type of Retail Store	Permits	Total Transactions (1,000 of dollars)
Apparel Stores	37	\$16,126
General Merchandise Stores	22	\$177,554
Food Stores	79	\$67,960
Eating and Drinking Places	134	\$57,058
Home furnishings and appliances	63	\$20,616
Bldg. Material & Farm Equipment	34	\$103,482
Auto dealers and auto supplies	89	\$122,503
Service Stations	21	\$36,298
Other retail stores	342	\$106,493

Retail Stores Totals	821	\$708,920
All other outlets	1,118	\$312,434
Totals all outlets	1,939	\$1,020,524

Source: Board of Equalization, 2000.

Sutter County's total taxable sales is 0.23 percent of the total in California. The per capita taxable sales in Sutter County in 2000 was \$12,929 in comparison with the California average of \$12,815. The per capita income in Sutter County was \$24,223 which ranked 27<sup>th</sup> in the state. This indicates that people of Sutter County are spending half of their income in retail outlets. Since 1994, per capita income in Sutter County has not grown as quickly as average California per capita income. The poverty level in Sutter County is about 16 percent, which is 0.5 percent higher than the California total, based on information from the U.S. Department of Commerce, Bureau of Census (1995 data).

### **Employment Characteristics**

Based on data released in "February 2000 Facts and Figures" published by the Sacramento Area Council of Governments (SACOG), Sutter County had a net gain of 6,026 jobs between 1990 and 1999, a 35.7 percent increase with an annual growth rate of 3.5 percent. The majority of job growth in the county occurred in Yuba City with the addition of 4,839 jobs. The unincorporated area had a net gain of 694 jobs.

California Employment Development Department data for the year 2000 showed that there was an annual average of 4100 farm workers employed in the County. In August 2000 the number of farm workers in the County peaked to 6800, while the low point for the year was 2200.

### **3.13.2 Impacts**

The following criterias help to determine whether the proposed project would result in an adverse or significant impact related to social and economic impacts to the Community. Would the proposed project:

- Physically divide an established community or affect community cohesion?
- Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?
- Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?

- Reduce the overall housing vacancy rate below two percent or more than five percent of a specific type of unit?
- Impose disproportionately high and adverse impacts on low-income and/or minority populations?
- Remove substantial amounts of taxable property from the property tax base, relative to local fiscal conditions?
- Lose substantial amounts of retail trade, relative to local tax revenues?
- Lose substantial amounts of employment-generating industry, relative to local labor market?

### **3.13.2.1 Impact Discussion**

#### **Methodology**

The community impact analysis was based upon information gathered from a variety of sources, including technical studies prepared by Caltrans for this project, such as: the *Draft Relocation Impact Report (DRIR)*, *Project Study Report (PSR)*, the *Sutter-Yuba County Economic Report*, the *Caltrans State Route Transportation Concept Report (TCR)*, and other internally prepared Environmental and Planning Documents.

#### **Impact to Community Cohesion**

Transportation projects affect communities when they act as physical barriers or when they are perceived as psychological barriers by residents. A transportation project that is perceived as a physical or psychological barrier may isolate a portion of a homogeneous neighborhood.

The project area consists of low-density, rural residential and agricultural uses. The majority of residences are located along the existing facility. State Route 99 and its predecessor Highway 87B have separated properties and residents on both sides of the highway since 1933. None of the alternatives would create an additional barrier between established communities. Alternatives 2 and 3 would take traffic flow away from the project area referred to as the Tudor portion of the Highway and the junctions of SR 99/Garden Highway and SR 99/Highway 113. It is not expected that the displacement of any of the structures on the Tudor portion of the highway, or along other segments of the route within the project limits would disrupt the sparsely populated community.

### **Build Alternatives**

#### **Level of Impact:**

- No adverse effects on the established community and no effects on community cohesion.
- This impact is considered less than significant under CEQA.

### **No Build Alternative**

#### **Level of Impact:**

- No Impacts.

### **Residential Relocation**

The DRIR prepared for this project provides estimates of the number of business and residences by type that would be impacted by the proposed build alternatives. No relocations would be required by the No Build Alternative. All the proposed build alternatives would involve the relocation of some currently occupied residences (Table 3-18).

**Table 3-18- Residential Acquisitions by Type and Take**

Alternative	SFR*	Mobile Home	Full Take	Partial Take	Poor Quality	Fair Quality	Good Quality	Owner Occupied
1	9	1	2	7	5	1	3	7
2	8	1	1	7	3	2	3	6
3	11	1	2	9	1	2	0	1
No Build	0	0	0	0	0	0	0	0

Source: Caltrans Draft Relocation Impact Report

\*Single Family Residence

Alternative 1 would require nine residential displacements, of which only two are anticipated to be full takes (partial takes may not necessitate relocation of the occupants from the impacted property). Alternative 2 would require eight residential displacements, of which only one is anticipated to involve a full take. Alternative 3 would require only 11 residential displacements, of which two are anticipated to be full takes. Sufficient replacement housing exists within the community to

accommodate these displaced residents. The build alternatives would not require the construction of replacement housing.

Property owners would be compensated fair market value for any land and improvements acquired by the State, and relocation assistance would be provided in accordance with the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, as amended. In addition, reasonable access will be maintained during the construction period. All eligible displacees would be entitled to moving expenses. All benefits and services would be provided equitably to all residential and business relocatees with regard to race, color, religion, age, national origins and disability as specified under Title VI of the Civil Rights Act of 1964.

### **All Build Alternatives**

Level of Impact:

- Less than adverse.
- This impact is considered less than significant under CEQA.

### **No-Build Alternative**

Level of Impact:

- No Impacts.

### **Title VI and Environmental Justice: Relocation Impacts on Minority and Low-Income Populations**

Minorities in Census Tract 510 and a series of Census Blocks located in Census Tract 511 along the project limits showed similar percentages of minorities to those found throughout the County (Table 3-16). Proportions of various classified minorities were found in lesser percentages within the project area, than in the State as a whole, with the exception of Asian-Indians, which was 2 percent higher in Census Tract 510 than the statewide amount. This can be attributed to the fact that Census Tract 510 covers an area west of Yuba City, which has a high concentration of Asian-Indians.

Since, 11 residential displacements will occur, there is a possibility that individual members of a minority group(s) may be affected. However, these residences are widely dispersed throughout the project area, which reduces the potential for impacts on these minority group(s).

In addition, the Sper capita income figures for the study area indicate that income levels for residents are higher than the low-income level as defined by Department of Health and Human Services (DHHS). The proposed project is not expected to result in substantial health or environmental impacts on other residents of the study area. Therefore, none of the proposed project alternatives appears likely to have a disproportional high or adverse effect on minority or low income population. Therefore, the proposed project is consistent with the objectives of Executive Order 12898.

### **All Build Alternatives**

Level of Impact:

- No adverse effect on minority and low-income populations.
- This impact is considered less than significant under CEQA.

### **No-Build Alternative**

Level of Impact:

- No Impacts.

### **Affordable Housing Supply**

The proposed project would remove a relatively small quantity of housing from the local housing market. The DRIR indicates that the study area would accommodate replacement housing. According to the DRIR, there is a negligible number, if any, affordable houses impacted by the proposed project.

### **All Build Alternatives**

Level of Impact:

- No adverse effect on affordable housing.
- This impact is considered less than significant under CEQA.

### **Displacement of Local Businesses**

The DRIR indicates that a total of 12 businesses may be impacted by the proposed project. No businesses would be displaced as a result of the No Build Alternative. Alternative 1 would potentially displace seven commercial properties. Alternative 2

and 3 have four and three partial takes of commercial businesses respectively. Businesses affected by the alternatives involve fruit packing, grain storage, truck repair, small office building and a bar. Suitable replacement sites are available for the businesses so they are expected to continue operating effectively. Reasonable access will be maintained for businesses which will not be physically displaced, but will be affected by construction activity.

#### **All Build Alternatives**

Level of Impact:

- Less than adverse impact.
- This impact is considered less than significant under CEQA.

#### **No-Build Alternative**

Level of Impact:

- No Impacts.

#### **Effects on Tax Revenue**

The displacement of the businesses would have minimal effect on local tax revenues. This impact would be temporary due to the fact that only a few businesses being impacted actually generate tax revenues. The businesses, which are directly affected by the project would be compensated in accordance with Caltrans' Relocation Assistance Program.

#### **All Build Alternatives**

Level of Impact:

- Less than adverse impact.
- This impact is considered less than significant under CEQA.

#### **No-Build Alternative**

Level of Impact:

- No Impacts.

### **Regional Economic Impacts**

State Route 99 is considered an economic lifeline through the agricultural belt of northern central California. It provides a means for the movement of people and goods between metropolitan and rural centers, and connects distant parts of the state to one another.

In terms of the movement of people and goods, traffic congestion along Highway 99 through the project limits creates additional costs in time and efficiency. Given the projections for future increases in traffic congestion in the project area, this portion of Highway 99 is likely to become a more severe source of transportation cost increases for both workers and businesses. By alleviating congestion, all of the proposed build alternatives would decrease these transportation costs.

### **All Build Alternatives**

Level of Impact:

- Beneficial impact

### **No-Build Alternative**

Level of Impact:

- No Impacts.

### **3.13.3 Mitigation**

None Required.

## **3.14 Visual**

### **3.14.1 Affected Environment**

The proposed project is located in a region characterized by flat agricultural lands of the Northern Sacramento Valley. The project does not impact any state or federally designated scenic highway or byway system. The natural landscape is composed primarily of row crops, rice fields and orchards, with limited stands of remnant native

vegetation located along roadsides and adjacent properties. The built environment is composed of scattered farmhouses, out structures such as barns and associated agricultural infrastructure, such as silos and equipment storage facilities. The landscape as a whole exhibits few sensitive visual resources. However, three sensitive resources have been identified that warrant consideration and are described as follows:

***Native Vegetation-*** Stands of remnant native vegetation exist along roadsides and adjacent properties, the most noticeable is the Valley Oak (*Quercus lobata*). The Valley Oak can be categorized as a visual resource as it provides such benefits including roadside buffers and screens, visual landmarks and wildlife habitat. In addition, the towering trees provide regional context as the plant (tree) that once dominated the local Valley landscape.

***Feather River-*** The Feather River, which flows through Segment 2, is an important visual element in the local landscape. Once on the bridge, motorists are able to view the river and its adjacent riparian floodplain. This stands out in contrast to the surrounding agricultural landscape with its symmetrical patterns and sometimes stark appearance. This assessment considers the river and its floodplain as a visual resource with high value.

***Sutter Buttes-*** Although not highly visible from proposed project the Sutter Buttes do represent a unique visual element in the area. This resource provides relief to the otherwise flat landscape and is noticeable as a landmark to motorists.

### **3.14.2 Impacts**

The following criterias are used to evaluate whether the proposed project would result in an adverse and/or a significant impact on visual resources. Would the proposed project:

- Create a substantial adverse effect on a scenic vista?
- Substantially reduce the vividness, intactness, or unity of high-quality views?
- Introduce a substantial source of light and glare into the viewshed?

#### **3.14.2.1 Impact Discussion**

## Build Alternatives

Flat agricultural lands dominate existing views throughout the length of SR 99. Roadside locations from along this section of the proposed project contain spotty stands of native vegetation, specifically oak trees (*Quercus lobata*). Removal of native vegetation including oak trees may negatively impact visual quality of the route by eliminating elements that provide regional character, visual relief and buffers between the roadway and adjacent properties. No other negative impacts to visual quality or scenic resources are anticipated.

Riparian vegetation located within the floodplain of the Feather River is an important component to the visual and biological resources through this segment. Riparian vegetation provides visual cues that the driver is passing over a body of water, which provides a break from the monotonous agricultural landscape of the region. Removal of this vegetative community may negatively impact visual quality by diminishing variety in landscape types.

## Alternative 1 and 2

The Sutter Buttes are a prominent feature on the northern end of the proposed project. Over-crossing design for Alternative 1 (Phase II) and the interchange on Alternative 2 both at the Garden Highway intersection would potentially obstruct views of the Sutter Buttes for some local residents. These new structures should be designed to minimum height requirements to avoid unnecessarily obstructing views to the Sutter Buttes. No other impacts to visual quality or scenic resources are anticipated in these alternatives.

Impacts to the visual character, vividness, intactness, and unity of high-quality views of the proposed project area would be minimized by implementing the following measures:

- It is recommended that existing oaks located in roadside areas be protected from construction operations and retained where possible. The use of “Metal Beam Guardrails” should be used to protect and retain trees which may be located within the new clear recovery zone. If removal of existing oaks is necessary, all trees with a trunk diameter  $\geq 6$ ” DBH (Diameter Breast Height) will require mitigation/replacement.

- All disturbed areas associated with construction activities shall be seeded with appropriate perennial native grass species as part of the permanent erosion control BMP requirement.
- Selected locations throughout the length of the project shall be planted with native oaks from acorn or container. These areas shall be identified during the design phase as sites that pose no safety concerns associated with clear recovery for vehicles. Appropriate funding shall be in place for follow-up revegetation activities.
- All efforts should be made to minimize negative impacts to native vegetation when constructing bridge structure in Segment 2. All disturbed areas resulting from bridge construction within the levee boundaries shall be seeded and revegetated to lessen the visual and biological impacts. Erosion control measures shall be utilized in areas that have been cleared and grubbed. Revegetation of disturbed areas in floodplain shall be identified as a follow-up planting project.
- Levees on the west and east ends of the bridge structure impacted by construction activities shall be stabilized using erosion control BMP's during construction. Slopes shall be seeded and revegetated with native plants following construction.
- Considering the flatness of the existing landscape, embankment slopes on over-crossing structures shall be designed 1:3 or flatter to avoid visual inconsistencies with the surrounding terrain. Over-crossings shall be designed to minimum height requirements to avoid unnecessarily obstructing views to the Sutter Buttes. In addition to visual qualities, flatter slopes will assist Caltrans maintenance to control weeds using conventional mowing equipment.
- Newly constructed slopes and loop ramp areas associated with the interchange construction shall be revegetated with containerized and acorn oak plantings. All disturbed areas shall incorporate native grass species into erosion control seeding.
- Minimize impacts to private landscaping and mature trees through the town of Tudor when possible (Alternative 1). Replace or relocate any mature vegetation that is removed for construction in consultation with landowner.
- Avoid removal or impacts to root systems of large oak trees at intersection of O'Banion Road and SR99 Station 130+70 on design plans. Roadway improvements shall minimize construction-related activities within drip zones of trees. Staging and storage areas shall be prohibited from drip zones.

## **Build Alternatives**

Level of Impact:

- Less than adverse.
- This impact is considered less than significant under CEQA.

### **3.14.3 Mitigation**

Not Required.

## **3.15 Historic and Archaeological Preservation**

Federal regulation for cultural resources is governed primarily by Section 106 of the National Historic Preservation Act (NHPA) of 1966 (as amended). Section 106 requires federal agencies to take into account the effects of their actions on historic properties, and provides the Advisory Council on Historic Preservation the opportunity to comment on such actions. For compliance with NEPA, the FHWA follows the Council's implementing procedures contained in 36 Code of Federal Regulations (CFR) Part 800. Historic and archaeological resource studies performed pursuant to these statutes are documented in a Historic Property Survey Report (HPSR) prepared by Caltrans. For compliance with CEQA, the State Historic Preservation Office (SHPO) must provide concurrence with Caltrans findings regarding project impacts.

### **3.15.1 Affected Environment**

Alternative 1, segment 4, passes through Tudor, a small settlement that began as a stop on the Southern Pacific Railroad's "Rideout Extension" (circa 1890) through Sutter County. The town was historically a shipping point for the local agricultural products. Currently, the town of Tudor is a small farming community with a concentration of warehouses, vacant buildings, and some residences along its main road (Highway 99), with outlying farmsteads.

Segment 2 of the proposed project passes near the town of Nicolaus, which was first settled in 1842. Nicolaus is a small, agricultural community with its roots in the production of grains and dairy products. Evidence of its long agricultural history is found in the small cluster of residences and numerous outlying farmsteads remaining in the area.

The Area of Potential Effects (APE) for the proposed project contains 77 improved parcels, all of which were evaluated during this project effort. Caltrans staff has found that one property, the Saunders Ranch located at 833 Tudor Road, was determined eligible for listing in the National Register of Historic Places by formal consensus of the State Historic Preservation Officer (SHPO) on July 24, 1992. SHPO had also previously determined that 26 of the properties are ineligible for listing. Caltrans staff has determined that 24 additional properties appear ineligible for listing (final SHPO concurrence given by SHPO on June 5, 2002). The remaining 26 properties were treated in accordance with the “Caltrans Interim Policy for the Treatment of Buildings Constructed in 1957 or Later,” which became effective on June 1, 2001. The Interim Policy allows qualified Caltrans Architectural Historians to dismiss properties from further evaluation if they were constructed in or later than 1957 and have no overriding significance that would make them eligible for listing. Two bridges exist within the APE; however, both were constructed in 1958, were widened in 1999, and have no overriding significance that would make them eligible for listing. Caltrans has evaluated the properties in accordance with Section 15064.5(a)(2)-(3) of the CEQA Guidelines, using the criteria outlined in Section 5024.1 of the California Public Resources Code, and determined that one property within the APE, the Saunders Ranch located at 833 Tudor Road, is an historical resource for the purposes of CEQA.

### **3.15.2 Impacts**

An adverse impact would occur if an important historic property or archaeological resource was removed, damaged or its value diminished. Important historic properties or archaeological resources are those that are eligible for inclusion in the National Register of Historic Places or that meet the following criteria of the State CEQA Guideline:

- Has a recognized significance in California or American history or is of recognized scientific importance;
- Can provide information which is both of demonstrable public interest and useful in addressing scientifically consequential and reasonable archaeological research question;
- Has a special or particular quality such as oldest, best example, largest, or last surviving example of its kind;
- Is at least 100 years old and possesses substantial stratigraphic integrity; or

- Involves important research questions that historical research has shown can be answered only with archaeological methods.

### 3.15.2.1 Impact Discussion

Important historic properties or archaeological resources are those that are eligible for inclusion on the National Register of Historic Places, or meet certain criteria of the State CEQA Guidelines. Adverse impacts can occur if these resources are removed, damaged or have their value diminished.

The Saunders Ranch, was determined eligible for listing in the National Register under criterion C for its architectural qualities at the local level of significance. This historic property is located within the APE, but will not be impacted by the proposed project. There are no archaeological sites located within the APE.

In the event that buried archaeological materials are encountered during construction, it is Caltrans' policy that work temporarily cease in the area of the find until a qualified archaeologist can evaluate the nature and significance of the materials and consult with the State Historic Preservation Officer (SHPO) about disposition of the materials (*Environmental Handbook*, Vol. 2, Chapter 1). If human remains are discovered or recognized during construction, there shall be no further excavation or disturbance of the site, or any nearby area reasonably suspected to overlie adjacent remains, until the appropriate county coroner has determined that the remains are not subject to provisions of Section 27491 of the Government Code. If the coroner determines the remains to be Native American, he shall contact the Native American Heritage Commission (NAHC) within 24 hours. The NAHC will appoint a Most Likely Descendent for disposition of the remains (Health and Safety Code Sect. 7050.5, Public Resources Code Sect. 5097.24).

### **Build Alternatives**

Level of Impact:

- Less than adverse.
- This impact is considered less than significant under CEQA.

### 3.15.3 Mitigation

None Required.

### **3.16 Growth Inducement**

NEPA and CEQA guidelines require discussion of the potential growth-inducing impacts of a proposed project. Growth inducement in terms of transportation projects can be defined as the relationship between the proposed project and growth within the project area. This relationship is often regarded as either one of facilitating planned growth or inducing unplanned growth (Caltrans, 2000).

#### **3.16.1 Along Proposed Alternatives**

With the exception of the proposed interchanges along each of the alternatives, there would be no change to the accessibility of potentially developable land as a result of the proposed alternatives. The zoning designation within this area is General Agriculture (A-G) with a minimum farm parcel size of (8.09 ha) 20 acres, and a minimum homestead size of (0.405 ha) one acre. The Sutter County General Plan has seven goals in place to “preserve the high quality agricultural land for agricultural purposes.” The policies are designed to protect the County’s agricultural lands and are contained in the Agricultural Lands section of the County’s most recent Plan. The Plan notes that “Non agricultural home sites shall be limited to existing parcels and no new residential subdivisions shall be allowed in the agricultural areas.” The General Plan, therefore, sets boundaries, which serve as the limit of non-agricultural growth. The General Plan has confined commercial development in the Project Area to agricultural support enterprises.

Since areas along the project limits are protected by strict county zoning policies, construction of the alternatives would not likely result in significant changes to the use of these lands.

#### **3.16.2 Interchanges**

Future development at interchanges is often a subject of speculation. Commercial development at or near the proposed interchanges would be limited by current land use patterns, zoning restrictions, and long term commitment of the county to preserve agricultural lands. Physical factors and historic trends make significant change in development patterns unlikely at these points.

### 3.16.3 Capacity and Growth

Growth inducement applies to the relationship between a proposed transportation project and growth within the project area. The relationship between transportation and growth is usually looked at as either “facilitating planned growth or inducing unplanned growth”(Caltrans, 2000). A transportation improvement which is growth inducing must directly cause economic or population increases greater than what is planned by the local agency without the project. If the improvement is the cause of new development and an influx of residents and economic strength in an area, then it may be growth inducing.

Growth accommodating and growth constraining are two important terms that describe growth. Growth accommodating is designing a system to best handle upcoming growth trends. It is important to forecast future trends and determine what changes are needed to ensure the highways are safe and efficient for the public’s needs. Resulting highway improvements are not the cause of development, but a result of development.

Growth constraining effects occur when necessary highway improvements are not made. It is assumed, in some areas, growth will occur regardless of the highway system. More desirable land (cheaper or better), jobs, or planning by local agencies will bring new residents to the area even if there is considerable congestion on the roadways. If the highways do not expand with the influx of new residents and businesses, the growth level will slow down. A project may increase highway capacity, but will only facilitate smoother passage for growth that has occurred and is planned to come.

Also when gauging the “growth inducement” potential the timing and eventual actual construction completion date of a capacity increasing project must be looked at carefully. By the time many capacity increasing projects are completed they serve only to accommodate growth. Further, these projects more often even under serve previously projected growth.

The proposed construction completion date for the proposed project is between November 2006 and November 2008. The interchanges on the proposed Alternatives have not yet been funded or scheduled for possible construction. Interchanges would be constructed at a later date. In lieu of the interchanges, stoplight intersections would be phased in and installed at the SR 99/Garden Highway and SR 99/SR 113 intersections.

According to Sutter County General Plan, the LOS for the project area would decline to level “F” by the year 2015 if no improvements are made (Table 3-19). The Highway Capacity Manual defines LOS “F” as “Forced of breakdown flow, more vehicles are arriving than are leaving.” The General Plan has a LOS standard of “D” for the route. According to CT Systems Planning, the segment of Route 99 within the project area currently functions at LOS “E” (indicating “operations at or near capacity; unstable).

**Table 3-19 2019 - Traffic Projections**

Location and Segment	1998		2015		2025	
	ADT	LOS	ADT	LOS*	ADT	LOS*
Segment 1 KP 14.0/18.5 (PM 8.7/11.5)	10,700	D	19,500	F/B	22,100	F/B
Segment 2 KP 18.5/23.0 (PM 11.5/14.3)	10,700	D	20,200	F/B	22,500	F/B
Segment 3** KP 20.8/31.7 (PM 12.9/17.2) Built in 2000	10,700	D	20,200	F/B	22,500	F/B
Segment 4 KP 27.0/37.2 (PM 16.8/23.1)	13,900	D	20,800	F/B	24,500	F/B

\*F/B: Level of Service without/with the project is built.

Traffic congestion within the project area will increase through time. Currently, one section of SR 99 within the project limits is operating at LOS “E” (Table 1-1). The existing highway cannot be expected to maintain this LOS in the future. In fact, the facility is expected to drop to LOS F without improvements.

The Sacramento Area Council of Governments (SACOG) have determined that "the geographical pattern of growth (in the SACOG region which consists of Sacramento, Yolo, South Placer, Yuba and Sutter Counties) will follow the land use patterns already established in the region - strong employment growth in downtown Sacramento, and high concentrations of jobs and residential growth to north, northeast and east of Sacramento" (SACOG 1999).

The SR 99 corridor is identified among these growth corridors. Pressure for residential and suburban development due to regional growth patterns are expected to continue. Sutter County (Table 3-20) has planned for the expected population increases by 2020. It is expected that the area within the city's sphere of influence to the west of central Yuba City where planned development is occurring would absorb the vast majority of this regional pattern of growth for the foreseeable future.

**Table 3-20 - Sutter County Build-Out Projections**

Area	1995	2015	Population Increase
Yuba City Urban Area (Incorporated)	34,342	57,200	22,858
Yuba City Urban Area (Unincorporated)	22,194	33,617	11,423
Live Oak	5,312	9,110	3,798
Remaining Unincorporated**	13,084	16,073	2,989
<b>Total</b>	<b>74,932</b>	<b>116,000</b>	<b>41,068</b>

\*Figures taken from Sutter County's 1996 General Plan

Sutter County has indicated in their planning documents that the protection of agricultural lands is high on their agenda. This has been done through zoning, planned Rural Development Areas, and water, sewage, and drainage requirements. Nicolas is the only Rural Development area in the project area that is projected to have residential population/housing growth (an estimated build out of 19 new homes). According to the County General Plan, the agricultural area to the south of Yuba City is not seen as a solution to future housing needs of the County. Therefore, new and unplanned growth in the farming areas in proximity to the project area are not expected. Industrial-commercial growth is expected to occur in the southern portion of the County in the "commercial reserve" area, but only incrementally per the County General Plan.

The proposed highway and operational improvements would support anticipated and permissible growth within the County. The proposed project is not expected to induce significant levels of unexpected growth. The level of increased capacity which is suggested by the improvements is not expected to have a direct growth inducing effect on the project area. It is possible that the No Build Alternative could cause growth inducement to other areas in the region, which would be a constraint to planned growth in the "greater Project Area."

### **3.17 Short-Term Uses of the Human Environment and Long-Term Productivity**

Construction of the proposed project would result in short-term environmental impacts, which could include:

- Removal of special status plant and wildlife habitat.
- Removal of vegetation.
- Changes in the visual environment.

However, the proposed project would result in increased operating efficiency of SR 99 transportation corridor by:

- Decreasing congestion.
- Improving safety.
- Providing an interregional transportation facility.

This translates into increased long-term productivity of the transportation system on a local level and for the region and state as a whole, with improved movement of goods, services, and people. Preservation of special status species habitat (included in project mitigation) would also contribute to the long-term productivity of the region.

### **3.18 Irreversible and Irretrievable Commitment of Resources**

Implementation of the proposed action involves a commitment of a range of natural, physical, human, and fiscal resources. Land used in the construction of the proposed facility is considered an irreversible commitment during the time period that the land is used for a highway facility. However, if a greater need arises for use of the land or if the highway facility is no longer needed, the land can be converted to another use. At present, there is no reason to believe such a conversion will ever be necessary or desirable.

Considerable amounts of fossil fuels, labor, and highway construction materials such as cement, aggregate, and bituminous material are expended. Additionally, large amounts of labor and natural resources are used in the fabrication and preparation of construction materials. These materials are generally not retrievable. However, they are not in short supply and their use will not have an adverse effect upon continued

availability of these resources. Any construction will also require a substantial one-time expenditure of both state and federal funds, which are not retrievable.

The commitment of these resources is based on the concept that residents in the immediate area, state, and region will benefit by the improved quality of the transportation system. These benefits will consist of improved accessibility and safety, savings in time, and greater availability of quality services. These benefits are anticipated to outweigh the commitment of resources.



## Chapter 4 Cumulative Impacts

Both NEPA (40CFR 1508.7) and CEQA [Guidelines Section 15130(a)] require a discussion of cumulative impacts when a project's incremental effects are cumulatively considerable when taken together with those of closely related past, present and reasonably foreseeable projects. Cumulative effects analyses are typically difficult to thoroughly assess due to a lack of definitive information on future development projects. This analysis uses the best available information to assess the potential cumulative effects of the proposed project.

### 4.1 Cumulative Effects Area

For the proposed project, the area for evaluation of cumulative effects is the SR 70/149/99 corridor between southern Sutter County and Chico (Figure 4-1). For this analysis, the area of cumulative impacts considered includes southern and eastern Sutter County, western Yuba County, and south-central and western Butte County (primarily up to SR149). This area lies entirely on the eastern valley floor of the Sacramento Valley within the Feather River watershed. Similar to the Sutter 99 corridor, these areas have been significantly altered by agricultural practices, previous roadway construction, and urbanization.

### 4.2 Projects Considered in Cumulative Effects Evaluation

The following projects, described in Table 4-1, have been included in the cumulative effects evaluation since these projects are either located along the SR 99 corridor or are found in the general vicinity of the proposed SR 99 project in Sutter County:

- SR 99 Safety and Operational Improvement Project (proposed project)
- Route 70 Expressway Upgrade
- SR 70 Motorplex Interchange Project
- SR 99 Operational Improvements (O'Banion to Lincoln Road)
- SR 99 Operational Improvements (Sacramento Avenue to Wilkie Avenue)
- Third Bridge Crossing of the Feather River

**Figure 4-1 – Cumulative Effect Study Area**

**Table 4-1 - Cumulative Effects Corridor Projects**

<b>Highway Projects in Corridor</b>	<b>Project Description</b>	<b>Biological Issues</b>
Marysville Bypass	New Route 70, from the 70/65 split north to Oroville	Vernal pools, new river crossings (riparian habitat), VELB, waterfowl habitat
Route 70 Expressway Upgrade	Widening from 70/99 split north to McGowen – Nicholas bypass	GGS, VELB, Vernal pools, anadromous fish Wetlands
Route 149 Expressway Upgrade	Upgrade between 70 and 99 (4 alternatives)	VELB, vernal pools, wetlands
Third River Bridge	New route 65 extension to 99 (3 alternatives)	GGS, VELB, anadromous fish, wetlands
Motorplex Interchange (Yuba Co.)	Interchange at 70 and the motorplex complex	GGS, wetlands
Route 70 Extension/Ophir Rd. Interchange	Freeway upgrade and new interchange	VELB, wetlands, GGS

Other non-federal projects that would most likely occur in the cumulative effects corridor include mostly residential and commercial development (Table 4-2). These non-federal actions are largely based on build-out and growth patterns consistent with approved land use plans. Land use planning documents used in this analysis include Sutter County, Yuba County, Butte County, Yuba City Urban Area general plans, Sutter County's FPARC (Food Processing, Agricultural and Recreation Combining Area Plan), City of Marysville, City of Oroville, and City of Chico general plans. Figure 4-2 provides the locations of these local-planning areas of planned growth.

**Table 4-2 - Urban Developments to be Addressed Under Local HCP**

<b>Project</b>	<b>Description</b>	<b>Biological Resources</b>
Sutter County		
Yuba City Urban Plan	Development within vicinity of Yuba City, impacts to orchards	Little natural habitat
Yuba County		
Yuba County General Plan	Commercial and industrial development along Hwy 65	Wetlands, vernal pools, anadromous fish
North Arboga Study Area	Residential and commercial development south of Olivehurst	Vernal pools, wetlands and GGS
Plumas Lake Specific Plan	Residential and commercial development extending south of the Arboga Study Area along Hwy 70	Vernal pools, wetlands and GGS
East Linda Specific Plan	Residential and commercial development extending east of Linda	Little natural habitat
Yuba County Motorplex and Amphitheater	Racetrack, amphitheater and business park development south of Linda/Olivehurst	Wetlands
City of Marysville General Plan	City build-out, redevelopment of areas	Feather River and Yuba River – anadromous fish
North Marysville Specific Plan	North extension of Marysville for residential and commercial development	Wetlands, District 10 waterfowl habitat
Spring Valley Specific Plan	Residential community northeast of Marysville and District 10 waterfowl area on Hwy. 20	Wetlands, possibly vernal pools, winter foraging habitat
Butte County		
City of Oroville General Plan	Planned growth around the city of Oroville	VELB, vernal pools, riparian, anadromous fish
City of Chico General Plan	Planned growth confined to the Chico City area	VELB, GGS, Vernal pools, anadromous fish

### **4.3 Cumulative Effects**

Caltrans/FHWA transportation projects are predominately confined to the existing highway corridors. These transportation projects would essentially upgrade highway capacity on existing corridors in the region in response to anticipated growth, safety concerns, and level of service. Exceptions include the proposed project, and some of the Marysville Bypass alternatives.

Based on local planning documents, anticipated growth within the cumulative effects area is expected to continue to be primarily concentrated, around existing developed communities including Yuba City, Olivehurst, Linda, Marysville, Oroville, and Chico. Generally, agricultural lands are the dominant land use in the cumulative effects area. Preservation of these lands, as well as remnant natural habitat areas is a primary planning goal emphasized by city and county planning policies. It appears that for the foreseeable future, agricultural uses would continue as the primary land use outside the areas identified for planned growth.

**Figure 4-2 – General and Specific Plan Locations (Anticipated Growth Areas)**

### **4.3.1 Biological Resources**

#### **Pacific Flyway**

Individual projects may temporarily and permanently impact land which provides habitat for bird species that migrate through the Pacific Flyway. Similar to the proposed project, other projects considered for the cumulative analysis would individually mitigate for the take of land, which provides potential habitat. Many of the projects included under the analysis are linear transportation projects where the take of habitat is adjacent to the existing highway. In many projects, replacement of habitat involves the purchase of land tracts located away from the highways. The purchased tracts of land have minimum requirements (established by the Department of Fish and Game) which, in most cases, have more habitat value than the linear habitat being removed for the highway projects. The cumulative impacts could be considered positive when the overall result is a gain of more valuable habitat that is being managed specifically for migrating birds and other wildlife.

#### **Cumulative Effects To Threatened and Endangered Wildlife and Plant Species**

Biological resources considered in the cumulative effects analysis include habitats which support special-status species (i.e. Giant Garter Snake). Federal-listed species considered in this evaluation include Giant Garter Snake, Central Valley Chinook and Salmon Central Valley Steelhead.

**Table 4-3 – Cumulative Impacts to Biological Resources**

<b>Projects Considered</b>	<b>Area Of Impact</b>				
	<b>Central Valley Steelhead &amp; Chinook</b>	<b>Giant Garter Snake Habitat ha (ac)</b>	<b>Swainson's Hawk Habitat ha (ac)</b>	<b>Wetlands ha (ac)</b>	<b>Riparian</b>
SR99 Safety & Operational Improvement	Potential Impact	32.0 ha (77ac)	18 (45.0)	.236 (.583)	.627 (1.6)
Route 70 Expressway Upgrade	Potential Impact	140.5 ha (347.05 ac)	111.3 (275.0)	2.0 (5.0)	1.0 (2.5)
Route 149 Expressway Upgrade	No Impact	N/A	63.0 (155.7)	8.95 (22.12)	.89 (2.2)
Algodon Rd. Interchange	No Impact	9.1 (22.5)	22.8 (56.30)	.95 (2.31)	No
Yuba/Butte 70 Marysville to Oroville Fwy	Potential Impact	16.1 (40.0)	10.1 (25.0)	12.10 (30.0)	6.0(15.0)
Industrial Commercial Reserve	N/A	N/A	N/A	N/A	N/A
Route 65 Third River Bridge	Yes <sup>1</sup>	Yes <sup>1</sup>	Yes <sup>1</sup>	Yes <sup>1</sup>	Yes <sup>1</sup>
Route 70 Extension/ Ophir Rd. Interchange	N/A	3.7 (9.2) – 9.4 (23.3)	5.19 (12.8)	.92(2.27) – 1.52 (3.75)	.55 (1.36) – .91 (2.25)

Where listed species are affected; consultation is done with the resource agencies under the Federal Endangered Species Act (FESA). Permitting through this Act would be completed for individual projects. Cumulatively, the viability of some sensitive species throughout the region could be impacted. However, each project will mitigate for specific impacts through avoidance, creation and preservation. Often times, through mitigation requirements, the resource agencies are able to obtain large parcels of suitable habitat for impacted species. This ability to acquire such large, suitable parcels creates a continuity that facilitates viability among individual species.

### **Giant Garter Snake**

The proposed project has the potential to impact Giant Garter snake (GGS) habitat. In addition to the proposed project, other projects that would potentially impact

individuals and habitat include Route 70 Expressway Upgrade, Algodon Road Interchange, Yuba-Butte 70 Marysville-Oroville Freeway, and Route 70 extension/Ophir Road Interchange. Additionally, cumulative effects to giant garter snake include fluctuations in aquatic habitat due to water management, dredging and clearing vegetation from irrigation canals by both private and public entities.

The proposed project and other projects in the cumulative effects area would provide mitigation measures in the form of compensation at a ratio of 1:1 for temporary effects and 3:1 for permanent effects. Construction windows, monitoring within 24 hours of construction, and re-inspection following lapses in construction will also minimize effects to the Giant Garter snake.

Impacts to the Giant Garter snake resulting from the other projects listed in Table 4-3 would be mitigated on a project-by-project basis. This “cumulative mitigation” would serve to offset cumulative impacts to this specie.

### **Central Valley Chinook Salmon and Steelhead**

Central Valley Chinook salmon (spring-run and fall/late fall-run) and Central Valley steelhead occur throughout the cumulative effects study area. These species primarily use the Feather River, Yuba, Sacramento and Bear Rivers and several tributaries.

Potential impacts to salmonids arising from build-out of the Sutter County General Plan may include:

1. Degradation of water quality from increased urban runoff
2. Direct mortality of juveniles from pollutants
3. Direct mortality of eggs from sedimentation and increased water temperature
4. Removal of riparian vegetation which may cause increased temperature
5. Increase erosion from lack of vegetation

Most of the areas planned for growth in the cumulative effects area do not encroach on major anadromous fish streams. In areas where anadromous fish rivers and creeks occur in local specific and general planning areas these resources have been identified as sensitive and, consequently, are designated as non-development areas, open space or conservation areas.

Potential cumulative effects to drainages, which support these species in the cumulative effects study area are expected to be relatively small as the transportation projects are mostly linear. These types of projects typically do not permanently

obstruct or divert natural streamflows, which require specific procedures and timing restrictions during construction at stream crossings.

Mitigation measures recommended by NOAA Fisheries to minimize cumulative effects include water quality management during and following construction and replacement of riparian vegetation and design modifications that reduce fill in channels. These are the types of measures that will be incorporated in the HCP currently being developed by Sutter County.

### **Cumulative Effects to Wetlands and Waters of the U.S.**

Although nearly all the projects within the cumulative impacts analysis area have wetland impacts, these are not expected to be significant. Regulations require that there be no net loss of wetlands. All projects are required to incorporate water quality measures to prevent pollution of water within and beyond the project areas. With no net loss of wetlands and mandatory water quality measures, it is expected that any impacts to wetlands and waters will be temporary in nature. Moreover, mitigation that includes creation and preservation of natural habitats will facilitate sustainability throughout the region.

### **Swainson's Hawk**

The proposed project has the potential to impact Swainson's hawk nesting and foraging habitat. Pre-construction surveys would identify nesting sites. Mitigation measures require protection or creation of equally suitable habitat within a 10-mile radius of impacted habitat. The entire proposed project is within the 10-mile protocol.

Besides the SR99 Safety and Operational Improvement Project, other projects listed in Table 4-3 would potentially impact habitat for this species. Mitigation and minimization measures associated with each individual projects is expected to reduce the cumulative effects on this species.

### **Habitat Conservation Plan**

Sutter and Yuba Counties, both members of the Sacramento Area Council of Governments (SACOG) and Butte County propose to develop Habitat Conservation Plans (HCP) to address urban growth and the resulting impacts. The Habitat Conservation Plan (HCP) would contribute to offset some of the impacts related to the SR 99 Safety and Operational Improvement project. These plans will outline

planned housing and commercial developments as well as measures to minimize cumulative effects to resources. Some of the measures include limiting zoning in key habitat environments, creating state flood easements, creating habitat conservation easements, and designating wildlife areas and winter waterfowl areas.

The HCP is a document which helps dictate local development and provides a framework for their mitigation to offset cumulative affects.

Please refer to Figure 4-3.

### **4.3.2 Cumulative Community Impacts**

The proposed construction of the “Third Crossing of the Feather River Bridge” (when constructed) (SR65) and the Route 70 Upgrade Project (construction starting in 2002) are expected to alter some circulation patterns within the proposed study area along SR 99. Both projects combined would cause a change in travel patterns on several portions of the aforementioned routes; SR 65,70, and 99, respectively. The construction of the “Third Crossing” is expected to relieve congestion on the two bridges that currently connect Yuba City and Marysville and presently allow indirect access to SR 99 and SR 70 as well as SR 65 to the southeast.

Overall, these impacts to current circulation and access patterns are expected to be beneficial to the traveling public and regional economy. The proposed improvements, in addition to related projects in the area, will influence the LOS on SR 99 and cause a shift in regional travel patterns.

**Figure 4-3 – Proposed Habitat Conservation Plan**

### 4.3.3 Farmlands

In addition to the SR 99 Safety and Operational and Improvement Project there are two other proposed highway projects in Sutter County. These projects, in addition to the projects listed in Table 4-4 would be expected to have cumulative impacts on the conversion of farmland.

The approximate breakdown of farmland impacts per project is as follows:

**Table 4-4 - Farmland Impacts by Other Project in Sutter County**

Projects Considered	Farmland Impacted ha (ac)
SR99 Safety & Operational Improvement	77 (190)
Sutter 99 Programmed Improvements O'Banion Rd. to Lincoln Rd. (Under Construction)	7 (17.0)
Route 70 Expressway Upgrade	110 (272)
Route 149 Expressway Upgrade	1.2 (3.0)
Algodon Rd. Interchange	362 (895)
Yuba/Butte 70 Marysville-Oroville Frwy	161.9 (400.0) - 497.0 (1228.0)
Industrial Commercial Reserve*	4,249 (10,500)
Route 65 Third River Bridge	Yes <sup>1</sup>
Route 70 Extension/ Ophir Rd. Interchange	0 ha (0ac)
Total	4968.1 (12276.4) – 5303.2 (13104.1)

<sup>1</sup> Potential Impacts have not been calculated.

\*Special county designated area.

The total of farmland converted by the proposed and completed improvements from the SR 99 and 70 wye to O'Banion Road is estimated to be 105.2 ha (260 ac) {Alternative 3 (Preferred Alternative)}. The proposed project, in addition to the projects in Table 4-4 have the potential to convert between 4968.1 (12276.4 ac) to 5303.2 ha (13104.1 ac) of farmland to highway and industrial commercial use.

Although there is a large inventory of farmland currently in use in Sutter County, there has been an incremental increase in the area's conversion of farmlands to non-farmland use. Local planning policy constrain some conversion of agricultural lands in the county, but planned developments and the construction of transportation projects may have potential cumulative impact to farmland conversion in the study area.

### **Industrial Commercial Reserve (ICR)**

Sutter County's Industrial Commercial Reserve (ICR) is another factor to be considered when assessing farmland conversion impacts. The ICR designated by Sutter County represents approximately 4,249 ha (10,500 acres) reserved for commercial development in the southern most portion of the county. Sutter County has limited this conversion of this agricultural zoned land (AG-80) to incremental stages of development. The County General Plan allowed for 1416 ha (3500 acres) to be developed from 1996 until the next General Plan update cycle in 2004. On April 16, 2002, the Sutter County Board of Supervisors adopted a Specific Plan which rezoned 1416 ha (3,500 acres) to industrial and commercial use. So far only one commercial enterprise (a food service related industry) has located in the ICR. The soil in that portion of the County generally has a lower quality classification when compared to the farmlands to the north in the Project Area. Various types of commercial uses are allowed in the ICR. A long-term positive impact to the tax

Voters by referendum have stopped other residential and commercial development that would have intruded on farmland in the past and there remains strong public sentiment within the County and the Project Area against such development.

#### **4.3.4 Other Resources**

The proposed project is not expected to contribute to cumulative effects to air quality, water quality, and visual resources. Construction and mitigation measures would reduce impacts in these areas to a less than significant level (CEQA).

#### **4.3.5 Cumulative Effects Summary**

Although regional growth would be concentrated in established community centers and transportation upgrades on existing State facilities, there still would be cumulative losses to sensitive biological resources and farmland. The SR 99 Safety and Operational Improvement project would contribute to these losses of riparian habitat, wetlands, and habitat which supports federally and state listed species (Giant Garter snake and Swainson's Hawk). These losses are not substantial with implementation of proposed project mitigation, and considering the extensive resources available in the cumulative effects area. Despite the likelihood of cumulative effects to these resources in the region, the cumulative individual mitigation and conservation measures identified in planning documents and required

on Caltrans/FHWA transportation projects by resources agencies, as well as the forthcoming Butte, Sutter and Yuba County HCP would contribute to offset these effects.

In the cumulative effects area, agriculture is the predominant land use and has been identified as a high priority for preservation in local policies. In the foreseeable future, this land use would remain dominant even with full build out of all the planned growth areas identified in cumulative effects area. Although certain types of agriculture (orchards) are not the best land use to protect sensitive species, these areas do curtail other incompatible uses such as development. Other elements that would limit growth in the region and provide habitat for many sensitive and common species include: State flood easements (Yuba County), habitat conservation easements (Yuba, Sutter, and Butte counties, District 10/Honcut Creek area), designated wildlife areas/refuges (Sutter County, Marysville, Oroville, and Table Mountain), and major floodplains (Feather River, Yuba River, and Bear River). Because many of these areas limit incompatible land uses such as development, these areas would likely remain in their present state.

Although there would be direct, indirect, and cumulative effects from the SR 99 Safety and Operational Improvement Project, this project would not likely jeopardize the continued existence of listed anadromous fish (Central Valley Chinook Salmon and Steelhead), Giant Garter snake, and Swainson's Hawk. This is based on measures to avoid, minimize, and mitigate impacts to biological resources in the project area; land use constraints in the region, and extensive resources outside of foreseeable growth in the cumulative effects area.

Place holder

## **Chapter 5**

# **Summary of Public Involvement Process/Tribal Coordination**

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### **5.1 Public Involvement**

A Draft Environmental Impact Report/Environmental Assessment (Draft EIR/EA) was circulated to the public from June 24 to August 7, 2002. A public meeting was held on July 31, 2002 at the Veterans Memorial building in Yuba City. Many individuals expressed support for the proposed project. Comments received during the review period are included in Appendix B.

### **5.2 Selection of the Preferred Alternative**

A Project Development Team (PDT) meeting was held to make a formal recommendation on the Preferred Alternative. The team was comprised of both Caltrans and local agency representatives. During the meeting, the PDT reviewed:

- The Route Concept for State Route 99 between Yuba City and the 99/70 “wye”.
- Detail design review of segments 1, 2, and 4.
- Environmental impacts relating to Alternatives 1,2, and 3.
- Public comments received during the circulation of the Draft Environmental Document (DED).

Alternative 3 was selected as the preferred alternative. While it involves essentially the same level of environmental impacts as Alternatives 1 and 2 it does provide the added benefits of higher level of safety, shorter travel time, and lower estimated cost.

### **5.3 Tribal Coordination**

Request for information letters were sent to the following local historical society/historic preservation groups on the dates shown:

- Sutter County Historical Society (December 14, 2000)

- Community Memorial Museum of Sutter County (March 13, 2001)

A request for a list of Native American informants and information on the presence of sacred lands within the project area was sent to the Native American Heritage Commission on December 14, 2001.

A request for information letter were sent to the following Native American groups:

- Maidu Elder Organization (Martha Noel) (March 13, 2001)
- Mike Mitchem (March 13, 2001)

A request for information letter was sent to the Northwest Information Center of the California Historical Resources Information System, California State University, Chico on December 20, 2000.

**Summary of comments received/results:**

- John V. Reische, President of the Sutter County Historical Society, responded in writing on January 2, 2001, that a search of their records was negative for historic sites, structures or references regarding the project area.
- The Native American Heritage Commission replied, by FAX, on January 16, 2001, stating that no known sacred lands are located in the immediate project area. They also supplied two names of Native Americans (see above) for contacting regarding Native American issues in or near the project area.

Further information is contained in the Historic Property Survey Report, available at Caltrans District 3 Office, 703 B Street, Marysville, CA.





## Chapter 6 List of Preparers And Technical Studies

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This Final Environmental Impact Report/Environmental Assessment (FEIR/EA) was prepared by the North Region of the California Department of Transportation (Caltrans). The following Caltrans staff contributed to this document:

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Cara Lambirth, Associate Environmental Planner, M.A. English, CSU Sacramento; B.S. Business Administration, Arizona State University. One year experience in economics and environmental studies. **Contribution: Peer Review.**

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#### **6.1.1 Consultants**

Illingworth & Rodkin, Inc., Petaluma, California. Michael Thill, Staff Scientist, B.S. Environmental Studies, University of California, Santa Barbara. Over eight years of experience preparing noise studies. **Contribution: Noise Impact Study.**

## **6.2 Technical Reports**

Air Quality Report

Community Impact Analysis

Floodplain Analysis

Hazardous Waste Evaluation

Historic Property Survey Report

Noise Impact Study

Natural Environmental Study

Project Study Report

Project Report

Visual Impact Assessment

Water Quality Report

**Place holder**



## Chapter 7      Distribution List

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In compliance with NEPA and CEQA, the public and agencies were notified of the availability of the Draft EIR/EA. The Draft EIR/EA availability was published in the Federal Register and in local newspapers. The notifications of availability were sent to all parties on the project mailing list.

The Draft EIR/EA was distributed to key interested parties and key elected and appointed officials, as well as to all parties requesting it. The Draft EIR/EA was made available at the Sutter County Library, Yuba County Library, and through the District 3 public information office.

The following is a list of all people and agencies receiving the Draft EIR/EA:

### **Federal Agencies**

Sacramento District  
U.S. Army Corps of Engineers  
1325 J Street  
Sacramento, CA 95814-2928

U.S. Fish and Wildlife Services  
Sacramento Fish and Wildlife Office  
2800 Cottage Way, West 2605  
Sacramento, CA 95825

National Marine Fisheries Service  
Northwest Region–Sacramento Office  
650 Capitol Mall, Suite 6070  
Sacramento, CA 95814-4706

National Marine Fisheries Services  
Central Valley Office  
650 Capitol Mall, Room 8-300  
Sacramento, CA 95814

Nova Blazej  
Transportation Coordinator/  
NEPA Reviewer  
Federal Activities Office  
U.S. EPA, Region 9  
75 Hawthorne Street, CMD-Z  
San Francisco, CA 94105-3901

### **State Agencies**

State Clearinghouse  
1400 Tenth Street, Rm. 121  
Sacramento, CA 95814

Public Utilities Commission  
505 Van Ness Avenue  
San Francisco, CA 94102-3298

Executive Officer  
State Lands Commission  
1807 13<sup>th</sup> Street, Rm. 101  
Sacramento, CA 95814-7117

Executive Secretary  
Native American  
Heritage Commission  
915 Capitol Mall, Rm. 288  
Sacramento, CA 95814-4810

Director  
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Sacramento, CA 95814-5511

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Boating & Waterways  
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Sacramento, CA 95814

Director  
Department of Water Resources  
1416 Ninth Street  
Sacramento, CA 95814

State Dept. of Housing &  
Community Development  
1800 3<sup>rd</sup> Street  
Sacramento, CA 95814-6900

Director  
Department of Health Services  
744 P Street  
Sacramento, CA 95814

Executive Officer  
State Air Resources Board  
2020 L Street  
Sacramento, CA 95814

State Reclamation Board  
Sacramento-San Joaquin  
Drainage District  
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Sacramento, CA 94236-0001

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United States Senator  
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Chico, CA 95973

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Woodland, CA 95695-3407

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Sacramento, CA 95814

Honorable Thomas Oller  
Member of the Senate  
State Capitol, Rm 2048  
Sacramento, CA 95814

Honorable Richard Dickerson  
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Sacramento, CA 95814

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Sacramento, CA 95812-1335

California Native Plant Society  
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Sacramento, CA 95814

California Wildlife Federation  
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Sacramento, CA 95814

**General Interest**

Marian Missionaries of  
Jesus Crucified  
Queen of Angels Oratory  
7327 Garden Highway  
Yuba City, CA 95991

Sierra Gold Nurseries  
5320 Garden Highway  
Yuba City, CA 95991

Mr. & Mrs. Stephen Clark  
9003 Graffis Road  
Yuba City, CA 95991

This FEIR/EA will be sent to all persons, organizations, and agencies that submitted substantive comments on the DEIR/EA, to all individuals who have requested a copy, and to all responsible agencies.

The FEIR/EA will also be available for information and public disclosure purposes at the following locations:

Sutter County Library  
759 Forbes Avenue  
Yuba City, CA 95991

Yuba County Library  
303 Second Street  
Marysville, CA 95901

Sacramento Area Council of Governments  
3000 S Street  
Sacramento, CA 95816-7058

Caltrans District 3  
703 B Street  
Marysville, CA 95901





# **Chapter 8**

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### **Summary**

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- California Department of Transportation 2000. Biological Assessment, Route 70 Freeway Upgrade, Sutter and Yuba Counties.
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# Chapter 9 Index & Glossary

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## Glossary

- Accident rate** – Number of accidents per million vehicles.
- ACOE** – U.S. Army Corps of Engineers
- Anadromous** - Migrating up rivers from the sea to breed in fresh water.
- Best Management Practices (BMP)** – Any program, technology, process, operating method, measure or device that controls, prevents, removes or reduces pollution.
- Basin Plan** – A specific plan for control of water quality within one of the nine hydrologic basins of the State under the regulation of a Water Quality Control Board.
- Bypass** – An arterial highway that permits traffic to avoid all or part of a certain area such as an urban area or park.
- Caltrans** – California Department of Transportation
- CDFG** – California Department of Fish and Game
- CEQA** – California Environmental Quality Act of 1970
- CNDDDB** – California Natural Diversity Data Base; a database of plant and animal species
- CNPS** – California Native Plant Society
- Conventional Highway** – A highway with no control of access roads onto the highway, which may or may not be divided or have grade separations at interchanges.
- Cooperating Agency** – An agency, other than the lead agency, that has jurisdiction by law or other expertise, that is involved in a proposed project.
- Corridor** – A strip of land between two termini within which traffic, topography, environment, and other characteristics are evaluated for transportation purposes.
- CTC** – California Transportation Commission
- Cumulative Effects** – Project effects that are related to other actions with individually insignificant but cumulatively significant impacts.
- dBA** – Decibels on the A weighted scale.
- DBH** – Diameter (of a tree) measured at breast height.
- Decibel** – A numerical expression of the relative loudness of a sound.
- Draft EIR/EA** – Draft Environmental Impact Report (State), Environmental Assessment (Federal).
- Drainage basin** – The area in which all surface water will accumulate into one given stream.
- Encroachment (floodplain)** – An action within the limits of the 100-year floodplain.
- Endangered** – Plant or animal species that are in danger of extinction throughout all or a significant portion of its range.
- Erosion** – The wearing away of the land surface by running water, wind, ice, or other geological agents.
- ESU** – Evolutionarily Significant Unit – A distinctive group of Pacific salmon, steelhead, or sea-run cutthroat trout.
- Expressway** – Arterial highway with at least partial control of access, where limits are placed on number and type of intersecting streets, roads and driveways. An expressway may or may not be divided or have separations at intersections.
- FEMA** – Federal Emergency Management Agency
- FHWA** – Federal Highway Administration
- Federal Register** – A federal publication that provides official notice of federal administrative hearings and issuance of proposed and final federal administrative rules and regulations.
- FIRM** – Flood Insurance Rate Map. The official map upon which FEMA has delineated the areas of special flood hazard applicable to a community.

**Floodplain (100-year)** – The area subject to flooding by the flood or tide having a one percent chance of being exceeded in any given year.

**Freeway** – A divided arterial highway with full control of access and with grade separations at intersections.

**Grade Separation** – Utilized when two roads intersect at different grades (vertical elevations). Normally provided as part of an interchange, in lieu of an at-grade intersection.

**Habitat** – The place or type of site where a plant or animal naturally or normally lives and grows.

**Hectare** – A unit of surface measure in the metric system, equal to 10,000 square meters.

**HPSR** – Historic Property Survey Report. A comprehensive evaluation of cultural resources in a given area.

**Initial Site Assessment** – A Caltrans term for an initial study to determine hazardous waste issues on a project.

**LEDPA** – Least Environmentally Damaging Practicable Alternative. The Clean Water Act Section 404(b)(1) Alternatives Analysis is a specific evaluation to determine the LEDPA to waters of the U.S. (including wetlands) while meeting the project purpose. A Section 404 Permit can only be issued for the LEDPA.

**L<sub>eq</sub>** – A measurement for evaluation of sound impacts, it is the measurement of the fluctuating sound level received by a receptor averaged over a time interval (usually one hour).

**Level of Service (LOS)** – A measurement of capacity of a roadway.

**M** - (meters)

**Median** – The area of a divided highway that separates the traveled way for traffic in opposite directions.

**Mitigation** – Compensation for an impact by replacement or providing substitute resources or environments. Mitigation can include avoiding an impact by not taking a certain action, minimizing impacts by limiting the degree of an action, or rectifying an impact by repairing or restoring the affected environment.

**NEPA** – National Environmental Policy Act of 1969

**NES** – Natural Environment Study (biology)

**NOAA Fisheries** – National Marine Fisheries Service

**NOD** – Notice of Determination. A decision statement that indicates that a project has been approved subject to the requirements of CEQA.

**NOI** – Notice of Intent, part of the NEPA process. A notice placed in the Federal Register to advise the public that an environmental impact statement will be prepared for a project.

**NOP** – Notice of Preparation, part of the CEQA process. Notice sent to responsible agencies stating that an environmental impact report will be prepared for a project.

**NPDES** – National Pollutant Discharge Elimination System. A permit regulated by the Regional Water Quality Control Board that is required if more than 2 ha (5 ac) of original ground is graded. One condition of this permit is that the contractor submit a Storm Water Pollution Prevention Plan (SWPPP), which is similar to the Water Pollution Control Plan required by Caltrans' Standard Specification 7-1.01G.

**Postmile (PM)** – A method of identifying a location on the State Highway System using miles. When combined with the county and route, identifies unique locations along any State route in terms of miles.

**Practicable** – An action that is capable of being done after taking into consideration cost, existing technology and logistics in light of overall project purposes.

**Receptors** – Term used in air quality and noise studies that refers to houses or businesses that could be affected by a project.

**Regulatory Agency** – An agency that has jurisdiction by law.

**Responsible Agency** – A public agency other than the Lead Agency that has responsibility for carrying out or approving a project under CEQA.

**Right-of-Way** – A general term denoting land, property, or interest therein, usually in a strip, acquired for or devoted to transportation purposes.

**Riparian** – Pertaining to the banks and other adjacent terrestrial (as opposed to aquatic) environs of freshwater bodies, watercourses, estuaries, and surface-emergent aquifers, whose transported freshwater provides soil moisture sufficient in excess of that available through local precipitation to potentially support the growth of vegetation.

**ROD** – Record of Decision, part of the NEPA process. A statement that explains why an alternative has been selected, and summarizes mitigation and efforts made to minimize environmental impacts.

**RTP** – Regional Transportation Plan.

**RWQCB** – Regional Water Quality Control Board.

**SACOG** – Sacramento Area Council of Governments

**SHPO** – State Historic Preservation Officer.

**Special Status Species** – Plant or animal species that are either (1) federally listed, proposed for or a candidate for listing as threatened or endangered; (2) bird species protected under the federal Migratory Bird Treaty Act; (3) protected under State endangered species laws and regulations, plant protection laws and regulations, Fish and Game codes, or species of special concern listings and policies; (4) recognized by national, state, or local environmental organizations (e.g., California Native Plant Society).

**STIP** – State Transportation Improvement Program.

**SWPPP** – Storm Water Pollution Prevention Plan.

**Threatened** – species that is likely to become endangered in the foreseeable future in the absence of special protection.

**TIP** – Transportation Improvement Program.

**TSM** – Transportation Systems Management.

**Underground Storage Tanks (USTs)** – Tanks that typically contain motor vehicle fuel and are placed approximately three feet below the ground surface.

**USEPA** – U.S. Environmental Protection Agency.

**USFWS** – United States Fish and Wildlife Service.

**Waters of the United States** – As defined by the ACOE in 33 CFR 328.3(a):

1. All waters that are currently used, or were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters that are subject to the ebb and flow of the tide;
2. All interstate waters including interstate wetlands;
3. All other waters such as intrastate lakes, rivers, streams (including intermittent streams), mudflats, sandflats, wetlands, sloughs, prairie potholes, wet meadows, playa lakes, or natural ponds, the use, degradation or destruction of which could affect interstate or foreign commerce, including any such waters:
  - I. Which are or could be used by interstate or foreign travelers for recreational or other purposes; or
  - II. From which fish or shellfish are or could be taken and sold in interstate or foreign commerce; or
  - III. Which are used or could be used for industrial purposes by industries in interstate commerce;
4. All impoundment of waters otherwise defined as waters of the United States under this definition;
5. Tributaries of waters identified in paragraphs 1-4;
6. The territorial seas;
7. Wetlands adjacent to waters (waters that are not wetlands themselves) identified in paragraphs 1-6.

**Wetlands** – Areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas [33 CFR 328.3(b)].





## **Appendix A** Coordination and Consultation

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1. USFWS Coordination for Special Status Species
2. State Historic Preservation Office (SHPO) Letters



## **Appendix B**    Comments Received on Draft EIR/EA

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This appendix contains comments received on the DEIR/EA. Each letter and public comment card is reproduced in the following pages, along with responses to substantive issues raised.



## **Appendix C** U.S. Fish and Wildlife Service/National Marines Fisheries Service Biological Opinions

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1. USFWS Biological Opinion
2. NOAA Fisheries Biological Opinion



## **Appendix D** Programmatic Section 4(f) Evaluation

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## **Appendix E**    USFWS Species List

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## **Appendix F** Farmland Conversion Impact Rating Form

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## **Appendix G** Relocation Assistance Advisory Service

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